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AN EXAMINATION OF PRICING PRACTICES AND PROCEDURES IN A LOCAL HOUSE BUILDING INDUSTRY

by

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled An Examination of Pricing Practices and Procedures in a Local House Building Industry submitted by Lawrence Lee Parker in partial fulfillment of the requirements for the degree of Master of Business Administration.

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ABSTRACT

It is the purpose of this thesis to examine empirically the pricing practices and procedures of new home contractors in the Edmonton, Alberta area. To supply depth for the price theory background of this study, an examination is made of economic views towards product price determination under differentiated oligopolistic market conditions, this being the market-type of the local study. Throughout this examination, the theory of differentiated oligopoly is related in its application to the local new residential housing industry.

To further enlighten the pricing examination, a presentation is given of the current thoughts of writers who have empirically reviewed pricing in North American industries. These views and those of oligopoly economists are reconciled through a redefinition of marginal analysis.

The thesis concludes with an evaluation of the local contractor case study in terms of its contributions to price policy and incremental reasoning.

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CHAPTER I

INTRODUCTION

This thesis relates the pricing policies and practices of a representative sample of contractors, drawn from a defined market, to the present economic conceptions of pricing procedure and also to the views held by those writers who have reviewed empirically the pricing characteristics of business.

Most pricing studies, that have reviewed industries containing a number of small firms, have treated the firms en masse, rather than individually. This study differs from those previous researches by looking towards the individual firm as the point of analysis. It is the writer's belief that the decision-making process within the particular firm may be more clearly defined if the focus of investigation is at the particular firm, rather than with a mass of similar, related companies. This study, then, is concerned only with individual contractor cases. It focuses on the influences and pressures that have led to a particular pricing outcome. It gives close attention to the rationalizations made by the contracting executives concerned with pricing. It considers the data that are examined and analyzed by these executives, as well as the theories, procedures, and rules of thumb which have been applied in the pricing process. Wherever possible, this study attempts to trace the sequence of events that has led to a particular pricing outcome, from the initial awareness of a

problem, through consideration of competing alternatives, to the final decision.

This study has abandoned the questionnaire approach which has dominated pricing investigations in the past. It makes use, instead, of the case company approach as used by Kaplan, Dirlam and Lanzillotti in their pricing studies.[1] Questionnaire studies generally suffer from a failure to develop satisfactorily the reasoning for pricing decisions. They tend to accept at face value the brief replies of the respondents. It is the writer's belief that the company case approach, based on an intensive interviewing of key officials, carries more promise of discovering inconsistencies in official statements and of uncovering more completely the ideational bases of logic underlying the final outcome. The alternative to adopting the interview procedure would have been to bury the pricing process enquiry in a general study of each company--considering pricing decisions in context of company policy as they relate to product improvement, distribution methods, advertising, divisional organization and the characteristics of executive personalities. This process might have produced superior insight into broad questions of the way in which decisions of all types are made, but it would have failed to focus sufficiently on pricing itself.

At the outset, one might question whether this study is to be in the area of description or that of prescription. Is it concerned primarily with describing the ways in which contractors arrive at a

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[1] A.D.H. Kaplan, J.B. Dirlam, & R.F. Lanzillotti, Pricing in Big Business (Washington, D.C.: The Bookings Institution, 1958).

pricing decision, or does it attempt to supply advice on how such pricing should be done? A large volume of textbook material has been concerned more with the prescription than the description of such pricing procedures. Many examinations specify how pricing should be done, but only a few examine how it actually is done. When description is attempted, it frequently is superficial. For example, dozens of mail questionnaires ask, "How do you set your prices?" Such questions usually receive short and uninformative answers. A typical answer is, "We price according to whatever our competitors are charging"--a reply that is open to many interpretations and one which usually turns out to answer the question only partially. In this study, both description and prescription will be stressed.

This study of single family dwelling contractors in the Edmonton area presents detailed description of actual pricing practices, in the hope that this presentation will make a contribution to the study of individual firm's price decision-making. In the chapters to follow, conclusions will be presented that differ from previously published findings--conclusions on the pervasiveness of full-cost pricing, on the use of accounting methods that are consistent with marginalism, on the stress of target returns, and on the inattention to market forces. These conclusions are presented with the hope that they will contribute to a fuller understanding of the pricing decision process used by local homebuilding contractors.

CHAPTER II

THE ECONOMIST'S VIEWS ON OLIGOPOLISTIC MARKET STRUCTURE, PRICING AND PERFORMANCE

Introduction

It is the intention of this chapter to examine the economic views of product price determination under conditions of differentiated oligopoly. The general features of oligopoly and the circumstances which tend to create it will be identified. The characteristics of this theory which are relevant and readily identifiable to the Edmonton housing study reported in Chapter V, will also be enumerated.

General Features of Oligopoly

Bases of oligopoly

The circumstances which tend to create oligopoly are varied in character and are not unlike those which foster the one-firm monopoly. Perhaps foremost among them are the economies of scale. In various industries, especially those with much mechanization, the minimum long-run average costs are attained by the firm only when it reaches such great size that its output constitutes an impressive portion of the whole industry. A few such firms can produce the major part of the total in the market. Thus the optimum scale of production of the firms may very well lead to oligopoly in such industries as agricultural

machinery, heavy electrical equipment, steel, and automobiles.[1] It should not be inferred, however, that only in mechanized industry can economies of scale beget an oligopolistic industry. In local markets, a few efficient business units may be all that are necessary to satisfy the consumer demand. Hence the local oligopoly of hardware stores, building-materials dealers, or even residential contractors as discussed in Chapter V.

Finding small numbers of firms in an industry can often be traced to the difficulty of entry into that industry. The enormous requirements of capital outlay in many an industry give the businessman pause before he will venture his fortunes and those of others, especially when the addition of output to that of the existing firms may depress the price to a level of slim prospective profits.[2] The would-be newcomer may also fear provoking a price war by the firms established in the market, which may render his intrusion suicidal.[3] Moreover, once several brands have entrenched themselves in popular favor, the entrant faces an expensive task to win a following for his new variety. It will require perseverant advertising and promotion to build a demand for the new product by pulling away buyers from the popular brands to which they have grown attached.

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[1] J.W. Markham, Competition in the Rayon Industry (Cambridge: Harvard University Press, 1952), pp. 50-55.

[2] The Edmonton residential building market structure examined in Chapter IV provides an idea of the capital requirements necessary to successfully enter the Edmonton new home building industry.

[3] Markham, op. cit., pp. 21, 39.

The uniqueness of oligopoly

In the markets characterized by pure competition or monopoly, the individual seller, in considering his policy for the attainment of maximum profit, is not compelled to take into account the effect which his price-output behavior may have on other sellers of the same or similar goods. He does not have to worry about the steps, and their consequences to his own fortunes, which may be taken by his rivals in response to his own conduct.

The situation is essentially similar in monopolistic competition. There the individual firm, one among many, knows that its price policy would be of little consequence to the other firms--thus as in pure competition.[4] In varying the quality of the product or in fashioning a selling program, he will keep in mind and will learn from what others are doing. But because many others are involved, he makes his move without fear that they are constantly eyeing his steps with calculations of defensive or punitive reactions--thus as in pure monopoly.[5]

It is different in oligopoly; and the difference arises from the circumstance that sellers are few. Each produces a large share of the industry; therefore his moves affect the other producers.[6] The individual seller has to contend with the conduct of the other few sellers in response to his own action. He must evaluate the combined

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[4] M.M. Bober, Price and Income Theory (New York: W.W. Norton & Co., Inc., 1962), pp. 293-297.

[5] Bober, op. cit., p. 299.

[6] See Table V-1, 2 for a breakdown of number of firms in the local industry.

effect of the rivals' adjustments precipitated by his own initial move. The other firms behave similarly. Thus all firms act and react to each other's expected reactions. In oligopoly much hinges on what a given firm thinks the other firms will do. It is this interlacing of policy that constitutes the unique character of an oligopolistic market.

Differentiated Oligopoly

Differentiated oligopoly is a cross between pure oligopoly and monopolistic competition. As in the former, the number of sellers is small; as in the latter, the product is not homogeneous. In pure oligopoly the element of monopoly derives from the small numbers; in monopolistic competition it derives from the differentiation of the product. Differentiated oligopoly contains both of these monopoly elements. Although differentiated, the products of the several firms are not very remote substitutes for one another. If they were, each seller would be a monopolist.

Independent and collusive pricing

The basic analysis of price formation in differentiated oligopoly follows lines similar to those in pure oligopoly. Some of the outstanding differences will be outlined presently. Assume a few producers, each making a variety of a given product. Each producer seeks maximum gain and takes into account the reactions of the rivals to his price moves. The price set independently by each seller may well be a monopoly price. The optimum price charged may differ from firm to firm because their products differ in one respect or another.

A result similar to such independent pricing may emerge if there is collusion on price. The cartel may fix for each firm a price in the neighborhood of a monopoly price. Or else the cartel may set a given price as a frame of reference, with fixed differentials for each member, reflecting the uniqueness of his product and the special demand and cost conditions.

If the entry of new firms is not successfully barred and more producers appear with new brands of the product, the demand curve for each firm may shift as the trade is shared by more sellers. This shift may continue until tangency with the average total cost curve occurs. As in pure oligopoly, each firm then obtains a separate monopoly price which contains no monopoly profit.

Price differences in differentiated oligopoly

In differentiated oligopoly, independent pricing exhibits at least two features absent in pure oligopoly: (1) price differences among the constituent firms and (2) nonprice competition.

When the article is homogeneous the prices charged by the firms must be identical. A price difference of a cent or two on a barrel of cement may shift buyers to the low-priced seller. A price cut by one producer will ordinarily precipitate a price cut by the rival producers. When the United States Steel Corporation announces a price reduction on cold rolled steel it does not take long before the newspapers report a similar reduction by other steel companies.

But no identity of price is necessarily established when the few firms make varieties of the product. The differences in price can

be wide if, in the buyer's estimation, wide differences exist in the design, quality, or size of the various brands. The price gaps must be narrow indeed if the varieties are strongly alike.

Two results may follow in the above situation. First, in differentiated oligopoly the demand for the product of a given firm is apt to be more uncertain than in pure oligopoly. It is difficult for the seller to estimate the relative attachment of the buyers to the several makes of the article, or the response of rivals to his price cut. Second, price cartels are more difficult to organize than in pure oligopoly; and once organized are likely to be less stable. There can be enough wrangling before one price is established for the homogeneous article in pure oligopoly. Even more squabbling can develop before the several prices are fixed for the several brands; and more dissatisfaction can arise after they have been fixed, especially as market conditions change.

Nonprice competition

By and large, of the three types of competition--in price, in product adaption, and in promotion--price cutting is the most unpopular among oligopolists. The other two types of competition, both in the nature of nonprice competition, are held in much greater favor, and are widely practised, even by the members of a price cartel. Two reasons for this preference are suggested.

First, businessmen feel that there is a difference between price and nonprice competition in the sharpness of the impact on the consumer. Consumers are impressed by an appreciable price difference

between essentially similar goods. A price cut by one firm may make a serious raid on the trade of the other firms. The raided firms must respond with defensive price reductions. The fear prevails that at best nothing is gained from the all-round price cut and that at worst a price war may be precipitated. On the other hand, nonprice competition lacks the directness of impact upon the consumer. Nonprice competition does not express itself in the language which the consumer readily understands, the language of the price tag.

Second, a price cut can ordinarily be matched by rivals almost immediately. But a new wrinkle in the product or a new type of window casement used in a housing project, or a new strategy in the selling effort is not so easy to initiate and cannot be introduced without a lapse of time. The innovator can expect at least a temporary advantage. In oligopolistic industries the stress on nonprice competition is greater than in industries under monopolistic competition. Disinclined to use the weapon of price cutting, oligopolists, whether independent in conduct or collusive, lean more heavily on product variation and selling activity.

Price Rigidity: The Kinky Demand Curve

Because there are many different kinds of oligopolies, it is difficult to construct a general theory that will adequately explain all conceivable oligopolistic situations. Consequently, the analysis of oligopoly tends to be less specific than of other market structures. In an oligopoly, a firm will attempt to equate marginal cost and marginal revenue in order to maximize profits. Short-run price behavior

in oligopolistic industries is sometimes depicted by a "kinked" demand curve, which can be used to describe either pure oligopoly or differentiated oligopoly.

Nature and causes

A price is said to be flexible when it is sensitive to changes in supply and demand. In pure competition price adjusts itself to shifts in these determinants. Price rigidity must be dealt with when in the face of changing conditions there is no disposition on the part of the sellers to vary the price. The price may stay fixed amidst fluctuating circumstances that affect demand and supply.

Some oligopoly markets are often associated with sticky prices, and for a number of reasons. First, instead of reducing the price in response to a declining demand, the firms may choose to intensify their sales effort in order to win customers at the prevailing price. Second, after having spent a large sum to make a particular brand a household word and to identify it with a particular price, the oligopolist is reluctant to change the price and break the established association in the mind of the buyer. Third, the parties to a cartel-determined price are not anxious to move for a new price agreement and open a Pandora's box of conferences, bickerings, and manoeuvrings. Fourth, oligopolists are often content to leave well enough alone, and with an eye on forestalling the entry of new firms, they may be satisfied with a markup which gives good long-run profits, and which is not changed, except under drastic circumstances.

It is relatively easy to observe that price rigidity exists in

oligopoly, but it is hard to tell to what extent the rigidity results from the monopoly powers of the firms and from such reasons as have been mentioned in the foregoing paragraphs, and to what extent it flows from reasons having no connection with the monopoly element in oligopoly. There is an extensive body of literature on price rigidity which attempts to answer this question, but it still remains unresolved. One theory which attempts to demonstrate deductively that an oligopoly price is likely to be rigid is based on the kinky demand curve facing an oligopolist after the price of his product has been determined.[7] This theory will now be examined.

Assume, as in Figure 1, that the established price for the product in the oligopoly market is AP; imagine a straight line from A to P. If it is pure oligopoly that is being dealt with, AP is the price for all the firms; if differentiated oligopoly is the issue, AP may stand for the price of one firm while the prices of the other firms differ by prescribed amounts.

At any price above AP the demand for the product of the firm is pictured by the very elastic curve BP. This means that, should the firm raise the price above AP, the other firms are not likely to follow its lead. It will lose considerable trade to its rivals, and its sales will be greatly diminished. The firm will therefore think twice before raising the price. Now suppose that the firm considers a price below

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[7] P.M. Sweezy, "Demand Under Conditions of Oligopoly," Journal of Political Economy, Vol. XLVII (August 1939), pp. 568-573.

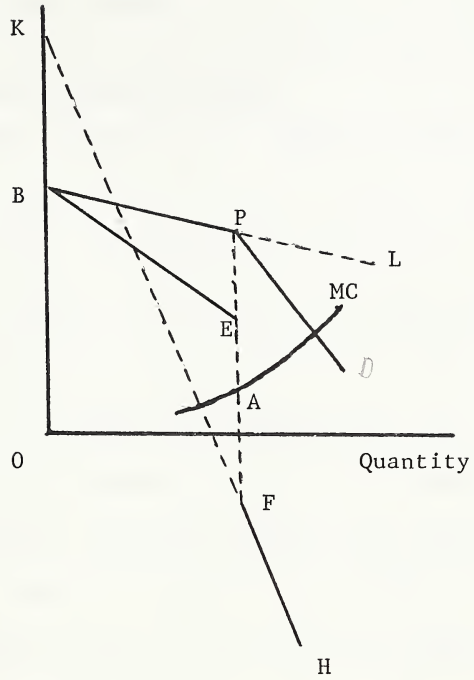

FIGURE 1. The Kinky Demand Curve; Rigidity of Oligopoly Price.

AP. It can expect to do a land-office business only if it thinks that the other firms will hold their prices fixed. Then the firm's sales curve would look like the elastic curve PL (Figure 1). However, there is much reason to believe that the other firms are not ready to lose trade to a price cutter and may respond with price cuts of their own. When all the firms are expected to move together on price reductions, the demand curve of the firm in question is not PL but PD. In such a case the gain in sales to the firm is negligible and the gain in revenue is precarious, since segment PD is of lower elasticity than segment PL,

and its companion marginal revenue curve FH is very low or negative. The firm will accordingly neither raise nor lower the established price. Price AP stays rigid.

Changes in costs or in demand

The oligopoly price promises to stay rigid, in some instances, even if changes occur in cost or demand. Consider a fall in cost for all the firms, occasioned by a reduction or elimination of a federal building materials sales tax on raw materials. The average cost and the marginal cost curves will shift to the right and downward. Before the change in cost, the marginal cost curve was MC, as in Figure 1, and it met the marginal revenue curve somewhere in the gap, between points E and F. Now the marginal cost curve is lower than MC; but it is still likely to intersect the marginal revenue curve in the gap, above point F, even if the old MC curve meets the marginal revenue curve at a point close to F. The reason is that the gap EF widens. First, the BP curve becomes more elastic because, in view of the lower cost, there is greater uncertainty that a price advance by one firm will not be matched by its rivals and will cause the firm great losses in sales. Second, the PD curve becomes more inelastic because, with the drop in cost, a price reduction by one firm is more certain to be followed by the other firms. The result: angle BPD at point P approaches a right angle and the gap EF widens. With a wider gap, the lower marginal cost curve is likely to intersect the marginal revenue curve inside the gap, pointing to the same output OA as before the decline in cost and to the old price AP. The firms clear more profit.

However, if there is a rise in unit costs (the price of a raw material input increases) the price is not apt to stay inflexible. The new marginal cost curve rises above the MC curve; and it is very likely to cross the marginal revenue curve above point E, indicating a higher price and a smaller output. The reasoning is similar to that in the preceding paragraph.

Similar considerations govern price determination when there is a change in demand. An increased demand may result in a higher price. Each firm knows that if it raises the price its companions will hardly refrain from doing likewise. The upper part of the sales curve, to the left of the old price, will now be less elastic than the corresponding part of the previous sales curve, forming a more obtuse angle. The gap will be smaller; and the marginal cost curve is apt to cut the marginal revenue curve at a point above the gap, indicating a correspondingly higher price.

In sum, the kinky-demand-curve analysis points to the likelihood of price rigidity in oligopoly when a price reduction is in order and of price flexibility when conditions warrant a rise in price. There is hardly a disposition to lower the price when there is a decline in demand or in costs; but the price may be raised in response to an increased demand or to rising costs.

The theory of kinky demand curve is probably of limited application in explaining price inflexibility.[8]

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[8] G.J. Stigler, "The Kinky Oligopoly Demand Curve and Rigid Prices," Journal of Political Economy, Vol. LV (October 1947), pp. 432-449.

In cases of price leadership or price cartels there is limited concerted behavior with respect to price changes: there is no kink in the demand curve in these instances; and they probably compose, in the author's opinion, a large proportion of oligopoly markets. When the products are not homogeneous (as in the case in the housebuilding industry) it is precarious to generalize that a price cut by one firm will be matched by the other firms, and a price advance will not. Even if such a generalization can be made, the discontinuity in the marginal revenue curve is likely to be too narrow to account for price rigidity, especially when costs decline.

CHAPTER III

PRICE DETERMINATION: AS SUGGESTED BY BUSINESS PRACTICES

Introduction

One of the central interests of businessmen and economists is the pricing of commodities. For the businessman, prices are one of the main determinants of profits and success. For the economist, prices are the heart of the mechanism for allocating resources to various lines of production. The pricing behavior discussions of Chapter II were from the viewpoint of the economist. This chapter changes the direction of enquiry away from the economic theorist's views to what the individual entrepreneur practises when he performs his pricing function. It is the intention to bring together both naive and sophisticated pricing views of businessmen and to look at the assumption that cost-plus or full-cost pricing is a useful and logical basis for price determination.

Most of the literature on pricing has been concerned with large firms. This is the case with the studies of Kaplan, Dirlam, and Lanzillotti.[1] In this chapter, pricing practices will be reviewed primarily from the point of view of the smaller, individual firm, as exemplified by homebuilding contractors in Edmonton.

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[1]Lanzillotti, op. cit., p. 13.

Shortcuts to Applying Marginalism

The prescriptive literature on pricing sometimes contains two shortcuts that seem to by-pass some of the difficulties of applying marginalism in the uncertain world of business. The better known of these alternatives is full-cost pricing; the other is "going rate" pricing. These variations of marginalism are discussed below.

Naive full-cost pricing

The expression "full-cost pricing" means pricing at a level covering total costs, including overhead, plus a predetermined markup.[2] In this paper, the term cost-plus pricing is treated as being synonymous with full-costing. Neither term is meant to refer to cases where variable markups are added to full-costs. The advocates of full-cost pricing write at varying levels of sophistication. Some writers recommend the full-cost pricing method as though there were no reasonable alternative. Other writers are quite familiar with alternative views, and particularly with marginalist reasoning, but favor full-cost pricing because of the difficulties of applying more flexible approaches.[3]

Even the firmest advocate of full-costs should recognize certain difficulties in the application of this principle. There are

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[2]W.W. Haynes, Managerial Economics (Illinois: The Dorsey Press, 1963), p. 356.

[3]Another reason for giving support to full-cost pricing centers around the issue of the cost of making a price change. In multi-product industries, this cost may be large enough to discourage the firm from using a more flexible, demand orientated costing procedure such as marginalism. In its place, the firm may favor the more rigid full-cost pricing process.

questions concerning cost definitions.[4] There are also questions of the allocation of overhead costs, and of the use of "actual cost" versus "standard cost" that need to be answered.

It might be argued that a "straw man" has been set up in this discussion of naive full-cost pricing, for it would seem that anyone with any business experience would know there is more to pricing. The rigid cost-plus price has little to commend it except simplicity and consistency. It is not based on any objective profit goal and it completely ignores demand; it considers no market share aims; while ignoring competitive responses. Some businesses do apply the full-cost approach, although in a mechanical way. One should hasten to add, however, that much of the literature on full-cost pricing is anything but naive. A discussion of this more sophisticated literature will be postponed until a review of the marginalists' approaches has been completed.

Naive going rate pricing

While some writers advocate routine pricing on the basis of costs, others favor pricing at the "going rate"--that is, pricing at what one's competitors are charging. Some publications suggest that all there is to pricing is just the determination of what one's competitors are charging. Sometimes this is suggested as only a first step in those situations where there is little other information. As a

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[4]For a discussion of the relevant business decision-making cost concepts, see: A.R. Oxenfeldt, "A Multi-Stage Approach to Pricing," Harvard Business Review (July 1960), pp. 125-133.

shortcut to a pricing decision, there may well be cases where this approach is not unsound, as in the case of an oligopolistic price leadership situation where it is desirable to have stabilized prices. The main problem with most of the literature, from the businessman's point of view, is that it does not tell him when to adopt the going rate procedure, nor does it indicate to him when he should make exceptions.

Marginalism in Pricing

When business economists began to apply concepts from economic theory to business problems, they embraced the marginalist approach to the subject which had been developed and refined in the nineteenth and early twentieth centuries.[5] Marginalism, on the surface, appears to provide a rational basis for decision-making. It is purported to be in opposition to mechanical pricing rules such as the full-cost or going-rate principles. What marginalism really amounts to is the comparison of the impact of decisions on revenues and on costs. Such reasoning is quite flexible. It does not require that attention be restricted to the effect of decisions on profits; it can take into account the extent to which the decision aids or distracts from other goals. When multiple goals are involved, however, a problem of weighting them arises. In actual practice attention is usually directed to profits, with correction for other considerations

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[5] A most useful work showing the application of marginalism to business problems is: Joel Dean, Managerial Economics (New York: Prentice-Hall, 1951).

after the profit computations have been completed.[6]

The general rule provided by marginalism will supply the basis for the discussions to follow. The rule states:[7] If an alternative leads to a greater increase in revenues than in costs, it will increase profits and should be considered; if it leads to a greater reduction in costs than in revenues, it should likewise be favored. As applied to pricing, the rule means that a decrease in price is favorable if it so stimulates extra business that revenues increase more than the added costs of the extra output, and that an increase in price is favorable if the loss of revenue is not enough to offset the increase in price and the reduction in costs.

Since "incremental cost" and "incremental revenue" are more familiar in business than "marginal cost" or "marginal revenue," these terms will be emphasized throughout the balance of this paper. The difference between the two is that "marginal cost" and "marginal revenue" are concerned with infinitesimally small changes in costs and revenues resulting from volume changes, while "incremental cost" and "incremental revenue" are finite changes resulting from a variety of decisions, not necessarily from operating volume changes.

Inconsistencies of Marginalism and Full-Cost Pricing

Some writers consider full-cost pricing to be the safest approach to pricing, presumably because it substitutes a formula for

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[6]W.W. Haynes, Pricing Decisions in Small Business (Kentucky: Kentucky Press, 1962), p. 14.

[7]Ibid., p. 15.

subjective judgments. If a businessman does not know the shape or the position of his demand curve, he may adopt the full-cost pricing method which does not require such knowledge. If a decision-maker is strongly motivated by questions of fairness, he may adopt this full-cost pricing procedure. This procedure treats all categories of customers alike, regardless of the particular conditions of the market.

The weaknesses of full-cost pricing are shown below, where the pricing technique is contrasted with that of marginalism. The following differences are noted:[8]

1. Marginalism describes firms as adjusting to conditions of demand. Full-cost pricing may not permit such adjustments.

2. Marginalism implies that marginal costs are the relevant decision-making costs. Full-cost pricing ignores marginal cost, and uses average costs instead.

3. Marginalism recognizes that the structure of the market is a major determinant of pricing behavior. Full-cost pricing usually ignores market structure considerations.

This brief discussion of full-cost pricing is not meant to imply that the method is entirely without its merits. It does suggest, however, that the decision-maker who uses it should consider carefully whether it meets the needs of his situation before he accepts it as the sole answer to his pricing problems.[9]

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[8]Haynes, op. cit., p. 362.

[9]A strong argument for full-cost pricing appears in P.D. Wiles', Price, Cost, and Output (Oxford: Basil Blackwell, 1956), p. 43.

Full-Costing: Some Empirical Studies

The findings of research on pricing are mixed and it is still somewhat a matter of controversy as to whether business practice follows the mechanical procedures of full-cost pricing or, alternatively, whether it adopts the more flexible, demand orientated precepts of marginalism. This section of this chapter will report on the findings of a few well-known pricing surveys.

The best-known questionnaire survey on pricing is that of R.L. Hall and C.J. Hitch, who were concerned primarily with oligopolistic markets.[10] In their study, they found a great majority of the sample of 38 firms applying a full-cost principle. Most of the firms started with direct costs, added a percentage to cover overhead, and then added another percentage for profits. The findings of their survey are summarized as follows:[11]

(i) An element of oligopoly is extremely common in markets for manufactured products. Most businesses take into account in their pricing the probable reaction of competitors and potential competitors to their price.

(ii) Where this element of oligopoly is present, there is a strong tendency among businessmen to fix prices at a level which they regard as their "full-costs."

(iii) Prices so fixed have a tendency to be stable. They will be changed if there is a significant change in their costs, but not in response to moderate or temporary shifts in demand.

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[10] R.L. Hall and C.J. Hitch, "Price Theory and Business Behavior," Oxford Economic Papers, No. II (May 1939), pp. 12, 18-22, 25-27.

[11] Ibid., p. 125.

This Hall and Hitch "green light" to full-costing has, however, come under severe attack. Critics point out that the firms in their study varied their percentage margins from product to product, and this, they say, suggests that some attention is being given to market forces.[12] Critics have also suggested that an inability to measure marginal revenue and marginal cost precisely does not require an abandonment of marginalism, which must include subjective estimates and approaches to maximum profits by trial and error.

A study in the 1950's by J.S. Earley lends support to marginalism.[13] This study covered large firms that were claimed to be "excellently managed." Earley found that the firms were adopting accounting methods that leaned in the direction of marginalism. He found differentiation of margins on different product lines, with attention being given to competitive pressures and demand elasticities.

A study by W. Haynes reaches conclusions different from those cited earlier.[14] In his examination of 88 individual companies an attempt was made to determine whether these companies follow the precepts of marginalism in pricing, or follow mechanical formulas such as full-cost pricing instead. Haynes reached the following conclusions:[15]

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[12]Wiles, op. cit., p. 63.

[13]J.S. Earley, "Marginal Policies of 'Excellently Managed' Companies," The American Economic Review (March 1956), pp. 44-70, and J.S. Earley, "Recent Developments in Cost Accounting and the 'Marginal Analysis,'" The Journal of Political Economy (June 1955), pp. 227-242.

[14]Haynes, op. cit., pp. 42-43.

[15]The discussion of the possibility that in some cases full-cost pricing and marginalism may be consistent, will be taken up in a later section.

(i) Most of the companies do not adhere to a strict full-cost approach to pricing. They do not confine themselves to calculating costs and then adding a predetermined margin. They, instead, show more flexibility than such a procedure would allow. They see a flexibility over time to changing conditions and a flexibility of a given amount of time to different conditions in different segments of the market.[16] Small businesses do adjust prices to market forces. They seek through subjective evaluations of demand and through trial and error, prices that will help them achieve their objectives, one of which is profit maximization.[17]

(ii) Where costs are used, their major impact is not usually in the form of a rigid base for a mechanical formula. Rather, it is for providing a resistance point to downward price flexibility; for providing a floor below which it will not allow price to fall. Full-cost formulae do provide a convenient reference point in pricing. When a manager is too busy to do otherwise, he may be willing to accept a mechanical solution to his problem.

(iii) Small firms have not adopted the incremental accounting techniques mentioned by Earley. Accounting appears to have a limited role in their pricing decisions, and where it does play a role, it tends to put the stress on full-costs and averages, rather than on incremental costs.

(iv) Small firms do not appear to give attention to "target returns," found in big business.[18]

(v) Small firms are often concerned with the ethics of pricing, and with community relations, as well as with the impact of prices on profits.

(vi) In a substantial minority of the cases examined, the markup concept was not mentioned, and, in fact, appears to be irrelevant because of the nebulous character of the costs. The firms do not mark up on costs unless they are confident that some objective estimates of costs are available.

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[16] Haynes, op. cit., p. 26.

[17] A discussion of whether firms attempt to maximize profits will appear in a later section of this paper.

[18] The opposite of this was one of the major findings of R.F. Lanzillotti, "Pricing Objectives in Large Companies," The American Economic Review (December 1958), pp. 921-940. See also Lanzillotti et al., op. cit., p. 123.

It can be quite safely concluded that in the aforementioned studies, strict adherence to the full-cost principle is the exception rather than the rule. Very few firms confine themselves to estimating average cost and then simply adding a rigid, predetermined margin to arrive at a price. Instead, the firm will devote attention to competitor pricing and other pressures from the demand side.[19] Most of the firms that Haynes surveyed took their costs as the pricing starting point, and then they made adjustments according to their particular circumstances. This type of firm conduct was also found to be significant in the Edmonton contractor study reported in Chapter V. Haynes summed up the role played by the contractors in setting their product price when he stated:

> A contractor estimates the full-cost of producing a house, but he modifies the price to meet market conditions. Even his concept of cost reflects variable estimates of the opportunity costs of his time. His time is less valuable in winter, when business is slack, than in other seasons; he adjusts his estimates of cost accordingly. He also shades his price on a cash sale of a house, recognizing the avoidance of a risk as compared with sales involving complicated financing. Thus the stress on full-costs does not mean inattention to demand.[20]

The business manager probably uses his cost estimates more often than not as reference points rather than resistance points. Full-cost estimates are treated as information. This may not always be the most relevant kind of information, but in business situations

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[19]This conclusion is in opposition to that of Lanzillotti in his big business study. Perhaps the difference is that he was concerned with large firms where routinized full-cost formulae simplified the many decision-making processes, whereas these conclusions are based on observations of small firm behavior.

[20]Haynes, op. cit., p. 29.

in which information is scarce, and the shapes of the demand and cost functions are uncertain, it seems quite reasonable that management should be influenced by the figures that do exist.

Further Notes on Marginalism

Some "critics" of economic theory have argued that businessmen cannot use marginal analysis unless they can measure their revenue and cost functions accurately.[21] If workable marginalism requires quantitative estimates of incremental values, then its use must be a rarity in business. However, this is not what marginalism requires if the concept is defined more broadly. Marginalism does not necessarily depend on formal cost breakdowns; it is questionable whether or not breakdowns into fixed, variable or similar categories imply marginalism. Earley's study of excellently managed firms leads one to the conclusion that these breakdowns do imply marginalism, for the study places much stress on the segmentation and differentiation of costs as evidence of marginalism. On the other hand, Haynes' small business study claims the companies he studied made little, if any, use of cost breakdowns in decision-making.[22] He also mentions that, in many of the cases he studied, there were practices that pointed in the direction of marginalism. Three such observations were:

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[21] W.J. Eiteman, "Price Determination, Business Practice Versus Economic Theory," The American Economic Review (April 1952), p. 415. See also: R.A. Lester, "Shortcomings of Marginal Analysis," The American Economic Review (March 1946), p. 139.

[22] Haynes, op. cit., p. 45.

(i) the trial and error approach to prices which ultimately led to higher profits,

(ii) an observed practice of varying markups with different product lines; and,

(iii) flexible markups over time with apparent adjustments being made to changing market conditions.

Having examined both sides of the problem, one might well ask the question: "Is full-cost pricing, as practised by the smaller firm, inconsistent with marginalism?" The answer is no; it need not be.

There are two steps to a full-cost pricing application--(1) the choice of the formula itself, and (2) the mechanical use of the formula in establishing individual prices. Once this two-step process has been identified, then a partial reconciliation of these two pricing procedures can be made. Once the firm selects the markup which it determines is viable, or which it is given by oligopolistic market considerations, then the routine use of the formula can relieve management from the necessity of making many individual analyses. In a sense, the formula is a means by which market forces bring pressure on the individual pricing decision. Thus, full-costing reduces the cost of decision-making. This makes particular sense in an oligopolistic market in which departure from full-costs may set off a chain of undesirable competitive reactions. In such a market situation, full-costs act as reference points which will influence pricing, but will not impose strict mechanical solutions.

Full costing, as the following Edmonton study will show, is not unrelated to marginalism.[23] Its application by the sample Edmonton contractors will show however that it may interfere with price flexibility.

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[23] For a more complete discussion on whether marginalism may or may not be defined beyond the narrow definition of implying direct knowledge of marginal revenue and marginal cost, see F. Machlup, "Marginal Analysis and Empirical Research," The American Economic Review, XXXVI (September 1946), p. 54; also H.M. Oliver, "Marginal Theory and Business Behavior," The American Economic Review, XXXVII (June 1947), p. 376; and R.A. Gordon, "Short-Period Price Determination in Theory and Practice," The American Economic Review, XXXVIII (June 1948), pp. 265-288. In suggesting a reconciliation of full-cost pricing with marginalism, I am adopting Machlup's wider definition.

CHAPTER IV

MARKET CONDITIONS

Introduction

In this chapter, the direction of enquiry is away from economic theory, instead it is turned to an examination of the market conditions within which the homebuilding contractor operates. These conditions will be examined for Canada in general, and for the Edmonton area in particular. This examination may serve to supply a macro-overview of building conditions in Canada. This overview will aid in an understanding of some locally observed pricing practices which are presented in Chapter V.

In Chapter V the sample structure for the local case study, and the methods of determination of the sample, will be presented. The sample members will be studied individually, with the inquiry directed to each member's pricing practices and policies as they relate to product price determination.

Housing Starts and Land Supply

The housing shortage in Canada is becoming critical. Central Mortgage and Housing Corporation (CMHC) has recently stated that single family dwelling housing starts in 1966 were at their lowest point in

five years, 32,000 below the 1965 figure.[1] Although housing starts in September 1967 were more than 30 per cent above September of last year, the industry was still running at a low rate of only 140,000 starts per annum. In 1966, the Economic Council of Canada warned that if a severe shortage is to be avoided, this country would need 185,000 new housing units this year and an average of 190,000 new units a year between 1969 and 1972.[2]

From the end of December 1961, to the end of December 1968, single and two-family dwelling starts in metropolitan Edmonton averaged 2,509 units and apartment and row houses averaged 2,569 units per year. From Table 1, it can be seen that the proportion of single and two-family dwelling starts has been decreasing as a proportion of total starts for each year with the exception of 1965. Single family dwelling starts declined sharply in the latter part of 1966, producing a low rate of completions for the year 1967.

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[1]M. Wheeler, "Study and Action for Better Housing," Canadian Welfare, Vol. 43, N. 1, Jan.-Feb. 1967, p. 9.

[2]Editorial, Financial Times of Canada, Montreal, October 30, 1967, p. 6.

TABLE 1

EDMONTON METROPOLITAN AREA
HOUSING STARTS BY TYPE OF DWELLING*

YEAR	Single Detached		Semi-Detached and Duplex		Row		Apartment		TOTAL
	No.	%	No.	%	No.	%	No.	%	
1961	2840	62.2	179	3.9	286	6.3	1257	27.6	4562
1962	3248	61.8	254	4.8	282	5.4	1471	28.0	5255
1963	2890	59.2	166	3.4	172	3.5	1655	33.9	4883
1964	2607	58.2	76	1.7	96	2.1	1700	38.0	4479
1965	2776	60.6	88	1.9	72	1.6	1645	35.9	4581
1966	2123	56.7	74	2.0	--	0	1549	41.3	3746
1967	1908	31.2	74	1.2	411	6.7	3718	60.9	6111
1968	2610	29.0	152	1.7	511	5.7	5730	63.6	9003

*Includes Jasper Place, St. Albert, and Sherwood Park.

Source: Central Mortgage and Housing Corporation and the City of Edmonton Planning Department.

For the city of Edmonton alone, the comparable figures for single and two-family dwelling starts averaged 2,315 units, while apartment and row houses averaged 2,651 units.

TABLE 2

CITY OF EDMONTON
HOUSING STARTS BY TYPE OF DWELLING

YEAR	Single, Semi-Detached and Duplex		Apartment and Row		TOTAL
	No.	%	No.	%	
1961	n/a		n/a		n/a
1962	2388	60.0	1592	40.0	3980
1963	2235	58.7	1570	41.3	3805
1964	2488	58.1	1796	41.9	4282
1965	2669	60.9	1711	39.1	4380
1966	2065	57.1	1549	42.9	3614
1967	1845	30.9	4129	69.1	5974
1968	2516	28.7	6241	71.3	8757

*Includes Jasper Place.

Source: Central Mortgage and Housing Corporation and The City of Edmonton Planning Department.

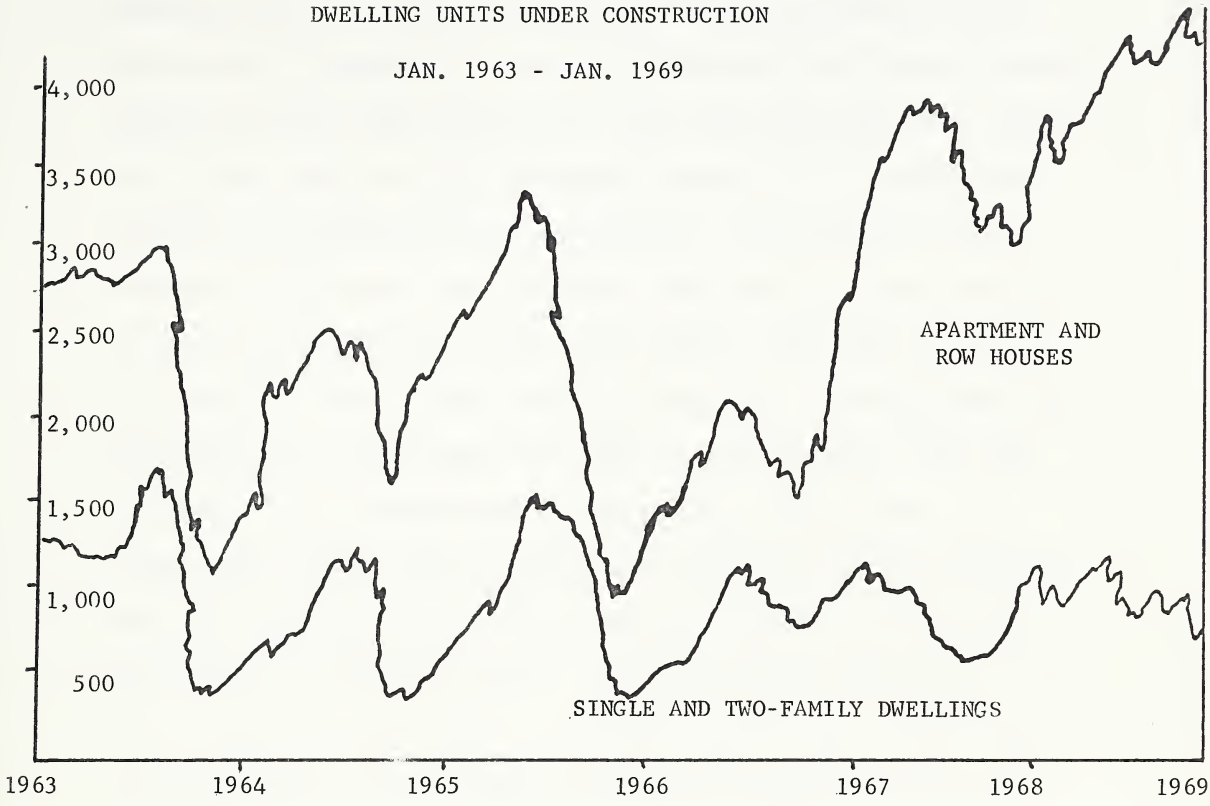
For the city of Edmonton including Jasper Place, Table 2 shows a substantial increase in the period 1966 - October 1968 for apartment and row housing starts. This increase as a percentage of total housing starts has gone from 42.9 to 71.3 per cent. Figure 1 portrays the situation.

FIGURE 1

CITY OF EDMONTON

DWELLING UNITS UNDER CONSTRUCTION

JAN. 1963 - JAN. 1969



Source: Central Mortgage and Housing Corporation.

In seeking an answer to why apartment and row houses are making up such a large percentage of total dwelling starts, it is necessary to examine the amount of serviced land which is being made available for single and two-family dwellings. Appendix A

indicates that, as of October 15, 1968, there were 1,502 serviced lots available for single and two-family construction in Edmonton. As illustrated in Appendix A, the supply of serviced lots declined significantly in 1968. When serviced lot counts were initiated on a regular basis in May 1965 the tally indicated a supply of 3,134 vacant serviced lots in developing Edmonton suburbs. In the summer of 1966, there were 3,093 vacant serviced lots. This amount declined sharply to 2,037 in July 1967 and 1,433 in July 1968. From Table 2, it was calculated that the average number of single and two-family dwellings being built was 2,315 (based on a count of housing starts from 1962 to 1968). If the homebuilders of Edmonton are constructing over 2,000 single and two-family dwellings in a year, and if they are working with a potential serviced land supply of 1,502 lots, the local contractors are operating within a serious land shortage market. It is the author's belief that the serviced land shortage is even more critical than the City of Edmonton Planning Department statistics reveal; for not only is there a pronounced serviced land shortage, but also there are no reserves of vacant serviced lots. And, it is the writer's suggestion that at any given time it is necessary for some portion of the housing stock to be vacant so that provision will be made for new family formations, population shifts, and for offering the consumer a choice in builder and home accommodation. Inasmuch as the present trends are towards greater family mobility and a changing attitude away from maintaining a permanent home, a positive vacancy rate is therefore necessitated.

In a submission to the Federal Task Force on Housing and Urban Development, October 1968, the City of Edmonton quickly dismisses the issue of "What is an optimal supply of reserve serviced land?" by stating:

> . . . on the one hand there would be interest costs attached to holding large amounts of vacant serviced land but on the other hand the greater supply might reduce the final asking price by an amount greater than the increase in interest cost.[3]

It is the author's contention that the sharp declines in single and two-family dwellings that are being experienced in the Edmonton area are the result of the City of Edmonton's failure to maintain an adequate supply of serviced lots for the local homebuilding contractors. This void has been taken up by multiple family dwelling construction which is able to acquire its serviced land from recaptured demolition properties.[4] Apartment and row housing construction has taken an increasing percentage of the total housing starts, surpassing that of single and two-family dwellings in 1967. (Table 2).

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[3]City of Edmonton Submission to the Honorable Paul Hellyer, Minister of Transport and The Federal Task Force on Housing and Urban Development, p. 16.

[4]Prior to 1967, apartment construction accounted for less than 50% of the total dwelling starts in the City of Edmonton. In the years January 1965 through to January 1967, the City of Edmonton in their Residential Land Use Staging Report, p. 9, indicated that the apartment occupancy rates were at an all-time high. They suggested the most significant decrease in vacancy rates occurred in the one and two bedroom apartment types, followed closely by bachelor apartments. They go on to say that the rise in occupancy levels is attributed to the shortages created by a major slowdown in residential construction.

To the local contractor, these circumstances add up to an encouraging housing market.[5] They have a built-in housing demand, created by a severe shortage.[6] If they have a land supply, and sufficient mortgage financing to get their housing product started, they should have little trouble selling it. As we shall see later, many of the contractors surveyed did not encounter difficulties selling their product even under conditions of high prices.

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[5] It must be noted, however, that one of the determinants for successful competition within such a housing market, is a serviced land supply, for without it you cannot compete at all. The problems associated with acquiring and developing this serviced land supply will be discussed in a later chapter of this thesis.

[6] In a recent conversation with the Edmonton Home Builders Association Manager, Mr. P. Burns, it was suggested that in 1968 there were 2,367 started single family units. On April 1, 1968, the City of Edmonton indicated serviced lot reserve was 1,282, a figure which he disagreed with, based on his analysis of association-member lot reserves. Mr. Burns went on to suggest that the number, in view of the required level of lot reserves, left a deficit supply of serviced lots of approximately 1,100. He further indicated that for 1969, planned staging starts in the single and two-family category were set at a level of 2,550 with a reserve requirement of 3,400. The writer is suggesting that when these figures are compared to the supplies of serviced vacant lots (Appendix A), an assessment of Edmonton's housing shortage can be made at approximately 6,300 lots. Local housebuilders claim there should be twice as many lots ready to be built on, to keep the prices down and offer buyers a reasonable choice. At the very least, they add, there should be more lots being serviced than are being built up and sold. This would gradually build a lot supply which would reduce the competition among builders. The association manager further said that, just because a lot is reported to be vacant and serviced, it does not mean it can be bought and built upon. Developers or speculators may withhold several lots from the market, leaving housebuilders no choice but to build in areas outside the City of Edmonton.

The State of Mortgage Financing

As the next category for describing the nature of the local housing market, mortgage financing and the availability of low priced mortgage funds ranks a very close second, in contractor importance, to available serviced land supply. In a submission by the National House Builders Association to the Federal Task Force on Housing and Urban Development, September 1968, the association describes inadequate and sporadic supply of mortgage financing funds as the greatest impediment to the development of a sufficient volume of housing in Canada. In Edmonton, and throughout Canada generally, housing is financed largely by mortgage loans from financing institutions, such as insurance companies, trust companies and banks; from private sources, such as pension funds and individuals; and from the Federal Government. The first two of these categories account for the bulk of financing with the Government acting as a residual lender.

There is not an adequate base of low priced funds available for the residential construction industry in Canada, and as a consequence the industry has been subjected to periodic mortgage money shortages which have had a disruptive effect upon its efficiency, employment and the price which must be charged for the end product. Both the volume and regularity of supply have proven inadequate and irregular in the past--particularly where the Government direct lending program was carried out to relieve unemployment or to control the economy. Through the 1960's the allocation of residual federal funds has been irregular in timing and amount. As a result of this sporadic supply of funds,

the industry has suffered an enforced type of inefficiency which has seen its production held to about 75% of its existing capacity.[7]

In addition to the periodic shortages of funds, there is another serious hindrance to financing in certain areas because of a hesitancy of private lenders to allocate sufficient funds for these centres. This inequitable geographical distribution of available mortgage money places an unfair handicap on many Canadians seeking homes. If existing financial institutions are unable or unwilling to provide sufficient low priced funds for housing, consideration should be given to the encouragement of the establishment of other types of institutions. These could possibly be patterned after the savings and loan associations and mortgage banks in the U.S.A. which channel their funds into mortgages.[8]

Throughout 1968 and the first quarter of 1969, the National Housing Act mortgage interest rate was fixed by a federal formula that set a quarterly maximum rate on government-insured housing loans. The NHA rate had been pegged at 2¼ per cent above the average yield on long-term government bonds. Experience with the ceiling has shown

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[7] National House Builders Association Submission to the Federal Task Force on Housing, September 1968, p. A-1.

[8] The N.H.B.A. recommended in its submission:

1) "That measures be taken to increase the total amount of residential mortgage investment and to insure the even flow of such funds through the year and in relation to market demands by way of existing channels, or by the creation of new institutions for the purpose.

2) "That in the event of the failure of institutional and private sources to provide adequate mortgage funds to certain areas, the Federal Government use its residual lending powers under the National Housing Act to fill the need."

that NHA rates range about $1\frac{3}{4}$ to 2 per cent higher than the long-term bond yield. Competition has kept lenders from charging a higher rate.

Prior to April 1, 1969, the NHA rate had been set at $9\frac{3}{8}$ per cent, while conventional mortgage loans were paying about $\frac{1}{4}$ per cent more. With a fixed ceiling, the NHA rate moved quarterly with increases and decreases in bond yields. Under pressure from rising yields in the money market, going rates on mortgages could have been expected to edge upwards. Even a narrow shift in mortgage rates could cause an important change in the cost of buying a home.[9]

One reason for an interest ceiling having a detrimental effect on the regular flow of funds is that in the period preceding the quarterly readjustment of the ceiling, lenders hold back on loan commitments to the building contractors, if an increase appears imminent. Borrowers, on the other hand, tend to hold back in this period if an interest rate drop seems likely. In either case, the steady flow of mortgage money is interrupted with a consequent ill-effect on steady housing production.[10]

At the end of the first quarter of 1969, the federal government, following the recommendations of Mr. Paul Hellyer, then Transport Minister in charge of housing, made amendments to the National

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[9]An increase of one per cent would add more than $9.00 to the monthly payment on a 25 year mortgage of $15,000.00. It would put more than $2,800.00 on the cost over the life of the mortgage.

[10]The NHBA in its housing submission, recommended the removal of the NHA interest rate ceiling so that both of these undesirable features could be eliminated.

Housing Act which removed the ceiling on NHA rates entirely.[11] The changes also increased from $18,000 to $25,000 the National Housing Act mortgages available on new homes. The term of repayment was extended to 40 years from 35 years and the mortgages available for purchasing existing homes, which formerly were limited at $10,000, went up to $18,000.

There is a good and a bad side to the government's decision to remove the NHA mortgage interest rate ceiling: mortgages will be more expensive, but more mortgage money will be available. There is the argument that, in the recent lender's market, the NHA maximum rate has had the distinct and disturbing tendency to pull the going rate upwards. The hurt that this causes will almost certainly be soothed by the fact that more money will be lured into the housing field and, hence, that more Canadians will be able to get their hands on the cash, albeit expensive cash, they need for housing.

At this point, it is necessary to examine the foregoing mortgage financing discussions in terms of their meaning to the local Edmonton home contractors. Mortgage financing, like land availability, is one of the necessary and essential ingredients for survival in the building industry. When mortgage monies are expensive and particularly when they are scarce for the builder, the price of their product necessarily reflects these circumstances. Sporadic supply of mortgage financing dictates that the contractor gear the larger percentage of

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[11]This amendment received royal assent in June 1969.

his construction towards owner-applicant potential homebuyers, instead of into the more expensive speculative building programs. When the contractor is placed in a position of not having available "ready-to-occupy" houses, his cash flows become more critical, for he is now catering to a more discerning buyer who expects the contractor's product to more closely resemble his particular desires in housing accommodation. These factors, coupled with buyer resistance to high mortgage rates, place the local contractor in a very precarious position. The Edmonton contractor case-studies, which follow in the next chapter, will display the individual contractor attitudes held towards high interest rate costs, and his relationship to pricing policies and practices.

Building Costs

The cost of new homes financed under the National Housing Act has increased each year since 1961. This increase resulted from rising prices of materials, rising wage rates of construction workers, increasing land and surveying costs, and to some extent a trend to larger houses and more extras in them. These factors, together with supplementary costs such as legal fees, combined to raise the average cost of NHA financed bungalows in Edmonton by 20.8 per cent between 1961 and 1968. This compares with an increase of 24.9 per cent for twelve major metropolitan areas in Canada and 24.8 per cent for Canada as a whole.[12]

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[12] C.M.H.C. Canadian Housing Statistics, 1967, p. 13.

Between 1961 and 1968, the price of residential building materials increased by 18.5 per cent, while non-residential building materials rose at a steady but slower pace of 14.6 per cent.[13] In general, the 11 per cent federal sales tax on building materials imposed in 1963, and a rising demand for construction materials created by the wave of construction spending, contributed to the building materials price increases. A more pronounced increase occurred in the labor resource market which showed a 28 per cent wage rate elevation for construction workers in the previous five years. In the main, residential building materials and wage rates rose at a slightly faster rate than in the non-residential sector in the period 1961 to 1968.

It is interesting to note that, while costs in the housing industry have increased approximately as fast as in the manufacturing industry, the construction industry has had little success, through the use of more efficient building methods, in moderating the impact of rising costs on prices charged the consumer.

During 1968, there has been a marked slowing down in the rate of increase of residential construction costs, despite a high rate of increase in the combined index of building material prices and construction labor. Construction costs on NHA financed bungalows increased during the past year by only 3.8 per cent and all residential construction by only 4.2 per cent, while the combined price index of

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[13] Ibid., p. 16.

building materials and construction labor increased by 6.8 per cent.[14]

Although sometimes accused of being backward, the residential construction industry has changed greatly over the last few years. Much of the work formerly carried out on the building site has been moved into the factory. Most builders now make extensive use of such things as pre-glazed and primed windows; siding of various types, pre-painted and finished; kitchen cabinets and vanities, factory-built ready for installation; and wall panelling, which is pre-assembled and finished.

While pre-fabrication of various degrees is advantageous, complete pre-fabrication should not be regarded as the ultimate answer to controlling housing costs. The capital costs of a pre-fabrication plant, together with the costs of delivering a major housing unit from the factory to the site, often offset any cost reductions made possible by manufacturing the house under factory conditions. On-site construction or assembly of components still remains highly competitive with factory-built units.

Another factor contributing to higher than necessary building costs is the multiplicity of conflicting and often outmoded building codes which are still in existence throughout Canada. The adoption of uniform building regulations is fundamental to overall efficiency and economy in the residential construction industry. The cost of doing

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[14]This apparent paradox is accounted for to some degree by the improved productivity of the residential construction industry.

different things in different communities, for no real reason except to satisfy the particular ideas held by local officials or councils, must of necessity add to the cost of the finished product through confusion. By trying to satisfy requirements in excess of recognized adequate standards, and by demanding the use of materials not commonly produced or readily supplied in quantities sufficient to bring their cost down, the manufacturers of building materials are unable to achieve the lowest possible cost. When the products they can sell are prohibited in some areas because of a regional building code restriction, this becomes wasteful, for it requires high inventories and transportation costs and can often slow up the whole building process through material supply difficulties.

It is suggested here that one way to cure this building code problem, in an effort to curb unnecessary housing costs, would be through the adoption of The National Building Code of Canada. This existing code was prepared by competent authorities and has been kept up to date. The code has been endorsed by the majority of national organizations in the building industry, including the National Home Builders Association, and Central Mortgage and Housing Corporation. Its universal adoption throughout the whole country should be actively promoted, if necessary, with some tangible form of encouragement from the federal government.

Three major variables affect housebuilding in Canada. The sample contractors, which are to be reviewed in the following chapter, are competing in a marketplace which is characterized by: scarce land

supplies, expensive land servicing costs, a shortage of highly priced mortgage financing money, and escalating building material and labor costs. Of these three variables examined, the only one which the contractor can expect to influence is the first one: a scarce land supply. The only way he can favorably shape this consideration, at least in the Edmonton area, is by becoming a land speculator and developer. As might be expected, to become involved in land development requires considerable capital reserves. One might well expect that only a handful of the larger home contractors would possess the required capital to undertake this activity. This matter, and the local contractors' pricing policies as they exist for survival within the described marketplace, is the subject of the following chapter.

CHAPTER V

A LOCAL MARKET STUDY

Introduction

It is the purpose of this chapter to examine a sample of the single family dwelling contractors building in the Edmonton area. The preliminary discussions to the actual survey deal only with the determination of the sample. After it has been shown how a "working" sample was established, the chapter will critically examine the individual member pricing practices and policies in an attempt to see if the marginalistic techniques presented in Chapter II prevail, or whether any of the sample builders lend support to some mechanical pricing methodology as was displayed in Chapter III. Throughout the sample presentation, attention will be drawn to any peculiar contractor policies that are seen as reflections of operating within the unique housing market that was described in the preceding chapter.

The Sample

In the Edmonton housing market in 1968, there were 95 contractors building single family dwellings. Appendix B illustrates who each of these contractors were and shows how many units each built in 1968. Since the purpose of the survey of contractors was to determine pricing techniques and policies that prevailed as a result of building in the Edmonton market, the contractors building single family dwellings had to be categorized by the housing market in which they were primarily

building. There are, among the 95 contractors, several who build exclusively on a custom design basis, offering a housing type which is predominantly designed for the upper income brackets. There are also many builders who have a mixed price range of product where their lines of housing cover low, middle and upper income purchasing. To arrive at a common basis of comparison for this study, it was decided that only contractors building a product priced within a total (land plus construction cost) range of $28,000 to $45,000 would be considered. It was initially believed before this study that this price range of home constituted a discernible market segment; further examination into the subject bore out this belief.[1]

What then became necessary was to enforce the market segment price restriction to eliminate builders who "beefed-up" the price of their product by simply increasing housing specifications. It was felt that this qualification should be enforced so that the sample of builders constructing homes in the aforementioned price range would more nearly approach a homogeneous sample. To accomplish this restriction, and to eliminate many of the smaller, "one-time" builders who might be constructing homes in the described market segment, only those contractors who built more than 25 single family dwelling units per year, with 80% of their construction being in the described range, were

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[1] An examination of the City of Edmonton building permit statistics for the 18 month period of study revealed that of the 20 contractors building more than 25 homes per year, 10 of these contractors concentrated on a housetype price within the stated range.

considered. Table 1 below describes for 1968 who these builders were and indicates what their monthly volume of construction starts were for that year.[2]

TABLE 1

SINGLE FAMILY DWELLING CONTRACTORS
BUILDING 25 OR MORE UNITS IN 1968

	Contractor	Total Dwellings Built
1.	Ace Lange Construction Ltd.	29
2.	Alcan Design Homes Ltd.	90
3.	Alldritt Construction Ltd.	131
4.	B & H Homes Ltd.	59
5.	Clarendon Construction Ltd.	47
6.	Doric Homes Ltd.	56
7.	Engineered Homes Ltd.	68
8.	Fekete Construction Ltd.	43
9.	Jackson Homes Ltd.	109
10.	Len Perry Construction Ltd.	79
11.	MacLachlan & Mitchell Construction Ltd.	182
12.	Oakland Homes Ltd.	39
13.	Quality Construction Ltd.	259
14.	S & S Homes Ltd.	88
15.	Shostak Construction	53
16.	J. Schouten & Sons	96
17.	Skylark Construction	25
18.	Terra Properties Ltd.	93
19.	Willowbrook Homes Ltd.	31
20.	Pathfinder Construction	27
	Total Units	1,604 = 71% of total single family dwellings built in Edmonton in 1968.

Source: 1968 City of Edmonton building permit statistics.

[2]The process of finding the eligible contractors from the 20 listed in Table 1, was performed by an examination of their building permit dollar cost of construction figures, which the City of Edmonton Planning Department made available.

From the 20 potentially eligible contractors listed in Table 1, the list was further reduced to include only eight contractors. These builders are listed in Table 2.

TABLE 2

CONTRACTORS CONSTRUCTING AT LEAST 25 HOUSES IN 1968
WITH 80% OF PRODUCTION IN THE $28,000 TO $45,000 PRICE RANGE

Contractor	Total Dwellings Built
1. Ace Lange Construction Ltd.	29
2. Alcan Design Homes Ltd.	90
3. B & H Homes Ltd.	59
4. Clarendon Construction Ltd.	47
5. Fekete Construction Ltd.	43
6. Len Perry Construction Ltd.	79
7. Oakland Homes Ltd.	39
8. Willowbrook Homes Ltd.	31
Total Units	417 = 25.9% of single family dwellings built by contractors in 1968 who built 25 or more units.

Source: Compiled from Appendix B.

What Table 2 represents is the number of Edmonton contractors who in 1968 built a repetitive product of at least 20 homes which were offered for sale at a price between $28,000 and $45,000. Each builder was offering a product for sale within a categorized market segment and the majority of each builder's product was priced within a determined range. These eight contractors were the final sample family which this study was to concern itself with. The combined volume of construction for the eight builders represented 14.1% of the total single family dwelling units built in Edmonton in 1968, and 25.9% of

the single family dwellings built by contractors building 25 or more units per year.[3]

To give more complete building history of the sample contractors, Appendix D, showing their total single family dwelling starts for 1967, was constructed. All of the contractors to be examined in this chapter, with the exception of B & H Homes Ltd., Oakland Homes Ltd., and Willowbrook Homes Ltd., would have qualified in 1967 as contractors building a repetitive product within the $28,000 to $45,000 price range.

The Sample Examined

With a working sample established, the purpose of this study was to see if the homebuilders used marginalistic techniques or some mechanical pricing methodology in pricing their housing types. As was mentioned in Chapter I (under the description of the methodology of

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[3] It should be noted that there were builders eliminated from this study who in the past would have easily qualified. However, due to an absence of a planned land supply, they were forced to build either on a "custom basis," or in types of construction other than single family dwelling residences; and, it was on this basis that they were eliminated. It was also necessary to eliminate builders who were offering for sale a housetype dressed to specifications substantially above their normal product line. By this restriction, the largest homebuilder in Edmonton, Quality Construction Ltd., was eliminated from the sample. It was felt by the author that although they repeatedly offered for sale a housetype within the qualifying range, on the whole, the majority of their product was priced below the $28,000 minimum. One further comment concerning the sample must be made, and that is, while Alcan Design Homes Ltd. builds a product priced on the higher side of the stipulated range, and a product line priced below the minimum of $28,000; it was felt their company should remain in the sample because the company builds the two product ranges through separate corporate structures.

the thesis) the search for the sample builders' pricing policies and practices was conducted through personal interviews. For each of the eight cases, interviews were arranged with top management responsible for the ultimate pricing decision. Interviews were also held with staff members whose function it was to "build-up" the housing price that ultimately went to management for approval. As all elements of the sample were members of the Edmonton Home Builders Association, an interview was arranged with the association manager in an attempt to see if it in any way gave direction to its members on matters of product pricing.

All eight of the contractors at first appeared to be cost oriented, starting with costs and adding predetermined markups. But a closer examination revealed that demand considerations were also important in determining how and when to vary price. The discussions to follow will consider each of the contractors separately, noting their pricing habits and peculiarities. These discussions will be followed by a concluding review. Appendices E, H, and I are included to illustrate the individual firm's costing procedures.

1. Len Perry Construction Ltd.

This company, in 1967 and 1968, was the second largest builder of the sample companies examined. Its 1967 production of single family dwellings was 76; in 1968, 79 units were built. For both of these years, the company's total production was within the qualifying range of this study. The product is priced on cost with a margin added to

arrive at a selling price. The company's accounting system provides detailed cost data including: the raw land costs, servicing costs, margin for expected servicing cost increments, excavation costs, surveying costs, and so on through the various stages of the new product's construction.[4] An overhead figure is allocated for field expense and for office administration expense. This sum was not found to vary with the size of the product being priced unlike all the previously mentioned costs. Having arrived at a unit housetype cost, based on quoted supplier prices, the company then adds its profit margin. This margin was found to be flexible with housetype. It was the company's policy to move its more rapidly selling models at a lower margin than for its slower moving models. The margins used ranged from 10 to 20 per cent, depending on the housetype under consideration.[5] In this sense, it is suggested that the contractor was exercising marginalistic characteristics.

The company did not offer price concessions to model home buyers, although they would restore the house to new condition. At no time during the analysis of Len Perry Construction could price shading in the form of offering the purchaser concessions on product specific-

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[4]See Appendix E for a typical cost estimate analysis form which the company employs in building up a new product selling price.

[5]The markup percentage employed did not vary with house construction type (bungalow vs. two story) as much as it varied with popularity of the model as reflected by sales statistics. One of the company's more successful plans included an 1800 sq. ft. split level. This model was priced with a markup of 14 per cent, whereas a slower selling housetype (a 6 bedroom model) was priced to include a 20 per cent margin.

ations be detected. By concessions, it is meant that the builder would not, in his negotiations with a potential purchaser, include such items as a dishwasher or a garburator simply for the sake of making the sale.

The interviews with this company revealed that they did not take a markup on the sale of their land when it was included as an integral part of a housing sale package. In fact, the company's reaction to the land shortage problem for contractors in the Edmonton area had resulted in a company directive to their selling staff not to sell any building sites without an accompanying company housetype. It was the manager's belief that the land supply problems in the Edmonton area would get worse throughout 1969 and 1970, and therefore any land which they managed to obtain (either raw or serviced) would be retained exclusively for the company's building needs. It was found that one housetype could be priced identically in different areas of the city, on similar lots, if the land in both of the areas was acquired at the same time and price.[6] The builder did, however, alter his specifications on houses for the different areas he was building in. The basic construction specifications would not be changed, but additional "frills" would be added, depending on the area of construction. One

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[6]If the lots were not acquired at the same time they would differ in price by the amount of interest charges involved in retaining the land until construction commenced. Another factor which was found to alter this relationship was the price quotation by the City of Edmonton for servicing costs. It was possible for two similar sized lots acquired at the same time in two different city areas to differ in price by the amount of servicing costs as quoted by the City of Edmonton. A typical local improvement schedule offered to contractors is found in Appendix F. It displays local improvement prices for several lots in the Riverbend Properties area of Edmonton.

would find the improved house models in the more select subdivisions of Riverbend Properties and Westbrook Estates, and the "undressed" models could be seen in the subdivisions of Patricia Heights and Petrolia. Even this statement must be clarified, for if an area had within it select building sites, the builder would reserve these for his more prominent housetypes.

When questioned about the availability and cost of mortgage financing as it might influence company pricing policies, the manager of Len Perry Construction indicated that his company believed that mortgage monies for new single family construction would continue to rise in cost. Because of this belief, the company was concentrating its building program on their less expensive or dressed up models.[7] The firm felt that a lower total house price would help offset any buyer resistance which might develop to higher priced mortgage funds.

2. Clarendon Construction Ltd.

The pricing patterns of this contractor were in many respects identical to Len Perry Construction Ltd. The basic cost accounting procedures were identical, with Clarendon utilizing Perry's system. The cost estimate analysis presented in Appendix E applies equally for Clarendon Construction Ltd. as it did for Perry Construction Ltd. This contractor also varied his markup with housetype, took no markup on

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[7]Those models which were faster sellers and which had a lower percentage profit markup included in their price calculations.

land, and used constant field expense and overhead allocations. Some price shading was evidenced through offering concessions to purchasers. The effort involved in acquiring the sale and the timing of the sale in relation to budgeted sales needs were found to be major determinants of the issue of price concessions to new home purchasers. Product differentiation and market segmentation, as in the previous case, were prominent, although to a lesser degree, for this contractor was building in essentially one area of the city.

Clarendon altered its house price with basic cost changes. Product prices were continually reviewed, and changes were made as frequently as costs altered. This policy of continually reviewing product price reflected the company's reactions to increasing material cost changes. Appendix G illustrates a representative cost analysis breakdown. This cost analysis spread sheet was used by the company to give up to date job cost figures. It also indicated what costs might be incurred throughout the completion of the job. It was found that even small cost changes of less than $100 were detected in the job and cost analysis and were immediately reflected in a price change.[8]

The basic product margin, as previously mentioned, varied with housetype. The margin itself was formulated on "target return" principles. Since the contractor viewed product demand as outweighing product supply, he would estimate demand on the basis of the productive capacity of his self-employed work crews. With this determined, and

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[8]This pricing adjustment would only be performed on unsold houses that were being built or on ones which were planned for construction.

the knowledge of his past sales performance, the manager would apply the appropriate margin, within the range of 10 to 18 per cent, which he felt would deliver the selected target return.

For the most part, pricing was not found to be of the "price for all the market will bear" variety. There were several instances noted where the contractor had duplicate housetypes for sale, one built before a major cost increase, and one built afterwards. In each of the instances, the earlier constructed model did not, in its price, reflect the increased building costs, and it was offered for sale at a price less than the current reproductive cost. It was suggested to the writer that this company policy was a result of the current Edmonton housing market conditions. The principals of Clarendon believed that cost savings should be passed on to the purchaser. They further believed that such practices presented a respectable business image to the consumer and that, since the number of housetypes which were built and remained unsold after a materials cost increase were few, they could well afford to "loss lead" them if the anticipated image was being received by the public.

When questioned as to what the biggest single problem facing contractors in Edmonton was, the manager of Clarendon Construction replied that he felt the absence of a planned land supply was giving contractors the most operating problems. In their particular instance, he indicated his company, to cope with its land needs, was forced to become involved in land development--buying raw land unserviced, designing and assembling it for their future needs. This practice, he

indicated, was an expensive one, as a considerable portion of the firm's working capital was involved in lot financing, and he felt many of the smaller builders would not be able to entertain such an endeavour.

3. B & H Homes Ltd., Willowbrook Homes Ltd., and Oakland Homes Ltd.

These three contractors also displayed cost-plus pricing practices of the same nature as the two previous builders. They used a fixed margin, not varying with housetype, but one which varied with the time of building season. Where any of the contractors had difficulties in selling a particular housetype, they would cut their margin below the scheduled level, and if necessary, would drop it to a point below total costs. It was their philosophy to market such houses at a loss, rather than gamble on incurring additional sales expense by holding the housetype in inventory. Willowbrook Homes and Oakland Homes Ltd. did indicate that selling houses at a point below total costs was an activity in which their firms rarely were engaged. The owners of these two firms suggested the housebuilding market was definitely biased in favor of the contractor, and as long as the housing market reacted in such a manner, neither of the contractors believed they would be placed in a position of having to sell their product at a point below total costs.

The reactions expressed by Oakland and Willowbrook Homes to the land shortage was one of extreme discontent. These two firms suggested they were finding it extremely difficult to secure land in the city of Edmonton in quantities sufficient to warrant the continuance

of their building program in the city.[9] As is suggested in the 1969 figures of Appendix C, Willowbrook and Oakland Homes Ltd. are building fewer single family dwellings in Edmonton. Their land problems and capital needs to develop and acquire land have resulted in a shift of the building locale for these two companies. Both firms, it was suggested, are now having to build their housetypes in the peripheral areas of Edmonton where less expensive raw land is available to them.

Each of the builders were found to price their product with an added margin attached to their land cost. Willowbrook and B & H Homes Ltd. not only added their margin to land costs and to total building costs, they also included a margin on their selling and administrative expense. This practice was not followed by any of the other sample members.

4. Ace Lange Construction Ltd. & Fekete Construction Ltd.

Throughout the course of interviewing these two companies, it was revealed that both builders were new to the market segment under consideration.[10] Fekete Construction Ltd. had only been building homes in the $28,000 to $45,000 range since 1967. For Ace Lange Construction,

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[9]The difficulty of maintaining cost control when building in several areas was expressed as the reason for wanting to have a "concentrated" building program. Both builders suggested costs would tend to get out of line when the firm was forced to build sporadically in several areas.

[10]Prior to their entry into this market segment, both firms concentrated their housing construction in the $21,000 to $26,000 range.

their date of entry to this market was 1966. It is interesting to note why these builders selected a higher priced market situation in which to concentrate their building program. Unlike the case of Willowbrook and Oakland Homes, these two firms were able to secure their land requirements mainly in the more select subdivisions of the city. This being the case, the firm's product price range was determined by the going price of housing in the areas where they acquired property.[11] For these two firms, it seems that the location of available serviced land has a determining effect on the price range of house that will be built.

The basic costing procedures of these two builders were not found to differ from that of the other contractors examined. Both firms priced on a material cost basis and included a varying markup for their profit allowance. In each instance, the pricing procedure was undertaken with an eye to demand factors, and the projected selling price would be allowed to vary depending on such factors as: time of the year the sale was being made in, the proportion of budgeted sales that had been acquired to date, and the "reasonableness" of the price concession asked for by the potential purchaser. Appendix H illustrates the job cost estimating procedures followed by these two builders. This costing breakdown was found to be an exact duplicate to the one recommended by the Edmonton Home Builders Association.

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[11]Not only was the price range for their product determined by what other builders were marketing in the area, but it was also influenced by the price paid for the land acquired.

5. Alcan Design Homes Ltd.

Alcan was the only sample member of national dimensions. It builds its "executive product" in all major Canadian cities. The company pricing policy, which was received from the Alcan parent division, differed considerably from that of the other builders. Alcan's pricing practices are best described as pricing at a level consistent with what the market will bear. If its market was a perfect oligopoly, one would not expect Alcan to survive the price pressures which would result from other market participants. The contractor's product was priced higher per specification than any of the others considered.[12] Part of the explanation of this price differential is found in the necessity of the local Alcan division making a larger contribution to its parent company than its competitors make to their owners. The remainder of the price difference is explained by their business practice--that of pricing at market.

Alcan does not price on a cost-plus basis. The firm's manager stated that total costs, as supplied monthly by the parent, are only used as a price reference point--a price which they will go below if

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[12] Being a national company, and in a position to buy accessories in bulk, Alcan's product was not offered for sale on the same basis as its competitors. In all cases within the qualifying price range, they included in their basic package, dishwashers, garburators, all carpeted bedrooms--to mention only a few differentiating features. When compared on an equal housetype-size-specification basis, either by building their competitors' specifications to equal their specifications, or by reducing their specifications to that of their competitors, Alcan's product was on average higher priced.

they feel it is necessary to sell their product.[13]

The company believes in adding a profit margin to their basic land costs and does so in nearly all cases. Due to the financial resources behind the local organization, the company is able to purchase land in raw stages and then arrange its own local improvement servicing. Since this is a costly procedure, somewhat beyond the means of its competitors, Alcan often finds itself in a position of land advantage, both as far as price and location are concerned. The company takes advantage of this position and prices accordingly. It will differentiate its lot locations and price the lots at a price that is appropriate for a pre-planned housetype. The end product price is based on cost plus a subjective margin intended to return all that the market is willing to pay for that particular lot and housetype. It is possible to find two similar housetypes on similar sized lots, one with a slight rise and one without. The end price, for the housetype on a knoll, will be marginally higher than the one situated on a flat lot. This differentiating behavior was not evidenced by the other builders studied, although they would arrange their price to reflect differences for housetypes built on ravine lots as opposed to non-view, "inside" lots. It was felt that Alcan's pricing policies were, on the whole, more market oriented than the other builders.

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[13]Appendix I illustrates the company's cost estimate analysis procedures.

Some Generally Observed Pricing Practices

There are a few areas where all members of the sample followed similar patterns in their pricing. One typical area concerned product pricing on non-builder land. For all participants of the sample, price concessions would be given to homeowners who owned their own land. The contractor would shade his price to reflect reduced costs of surveying and servicing the property. Where a building contract was financed through the homeowner's own mortgage arrangements, the contractors would also delete, from their price computation, interest charged on mortgage advances.

Another subject which all the builders studied treated similarly concerns pricing of extras. An extra refers to any change in the basic product, either addition or deletion, after a working price and specification has been established. If a client desired a change to be made in his home, such as adding bookcases to a family room, this would be treated as an extra and would be priced on a different markup than was used to arrive at the working contract price. In general, all eight contractors added a substantially larger margin to the "extra" cost than they used for the basic product cost. The margin on extras in this study ranged from 20 to 50 per cent. The contractors justified the additional margin by suggesting that the change in specification required more administrative expense to cover the costs of changing construction plans and the costs of notifying sub-contractors of the change, as well as the basic costs of the alteration. The same argu-

ment was advanced for a deletion from the basic contract, and it was noted that the contractors, in processing their credits to the home-buyer, did not give full credit for the deletion. The additional margin involved was still retained in the price.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Introduction

This chapter will review the more pertinent aspects of the material presented in chapters two through five. This resume will illustrate the previous arguments so that dimension may be given to the conclusions drawn from the local Edmonton housing study. It is the writer's intention in this chapter to synthesize the pricing practices of the sample contractors with the views held by those writers who have reviewed empirically the pricing characteristics of business. The conclusions that will be presented are not intended to provide pricing practices for small businesses in general. Indeed, the conclusions do not even apply to all of the contractors building single family dwellings in the Edmonton area. The conclusions are only relevant to one small segment of the building industry in Edmonton. The value that will come from the study conducted and the conclusions presented will be derived from the contributions they make to the empirical pricing literature.

Summary and Conclusions

In Chapter IV, the market conditions which exist for the home-building industry were given. Soon, Canada will be faced with a critical housing shortage. Building starts are significantly behind the projections of required housing as presented by the Economic Council

of Canada. This trend across Canada applies at least equally to the Edmonton area where single and two-family dwelling starts are down from earlier years. Apartment and row housing starts account for an increasing percentage of total building starts.

In seeking an answer as to why single family dwelling starts were dropping below acceptable minimums, three factors were presented. The first of these variables concerned the availability to the builders of an adequate serviced land supply. An illustration was given that would suggest that not only was there a pronounced serviced land shortage, but also there were no measures being taken to insure an adequate reserve of serviced lots. Due to the City of Edmonton's failure, as the only authorized land servicing agency in this area, to maintain adequate lot reserves for the local homebuilding contractors, a single family dwelling shortage has resulted. This shortage has been relieved to some degree through multiple family dwelling construction which is able to acquire serviced land. The local market structure can then be characterized as one in which builders lack opportunity if they have a deficiency of serviced land. On the other hand, the market becomes very favorable to a contractor if he has the serviced lot resources, since there is a backlog of housing demand. This lot shortage has placed local contractors in a position of having to compete vigorously for one of their primary raw material inputs. The scarce supply of this critical resource has caused it to become more expensive to the local contractors themselves, as well as to the public at large.

The second variable used to describe the local market scene was

the state of another input, mortgage financing. In this discussion, it was shown that low priced mortgage financing funds were inadequate and were supplied sporadically. By not being timely and adequate in amount, mortgage financing has held the building industry to a production level below that of its capacity. This scarcity of another needed raw material of the building industry has contributed to the increasing cost of single family dwellings--for builders must compete for the scarce mortgage funds, thus bidding up the price they have to pay for their monies. While the builders that have available serviced lot reserves automatically have a housing demand for their product, this advantage is somewhat negated by the buyer resistances they are experiencing because of expensive mortgage financing money. Therefore, contractors are placed in a precarious position.

The third characteristic used to describe the homebuilding market dealt with the increasing price of building materials. Rising building material prices, and wages for construction workers, were viewed as additional elements contributing to expensive housing. It was suggested that the building industry had had little success, through the use of more efficient building methods, in moderating the impact of rising costs on prices charged the consumer.

The market environment within which the sample contractors compete is then characterized as one of: scarce land supplies, expensive land servicing costs, shortages of highly priced mortgage money, and escalating building material and labor costs.

In Chapter II's discussion of the economic theories of pricing

behavior, the business entrepreneur was shown to arrive at a selling price through marginalistic considerations. The entrepreneur weighs the penalties and rewards of his pricing decision. He compares the added gains and added costs of increasing output, or of changing prices, and he works towards the position where the added gains and losses are equal. The theories discussed recognized that both cost and demand conditions influence pricing. They portrayed the firm as adjusting to changes in market forces, and revising prices as demand shifts or as costs change.

It was shown in Chapter II that the theories of price determination are helpful in the analysis of the manner in which an individual firm sets its prices, for they set forth the general forces which affect pricing, and they offer some explanation of why these forces affect pricing. The theories discussed provided a reference point against which a "real" pricing situation may be compared. They also permit the isolation of separate influences on prices where there are many influences operating simultaneously. The value of price theory was shown to be essential in an understanding of price policy and price procedure, but what remained was to bridge the gap between the theories which viewed the entrepreneur as establishing price and output quantities through marginalistic consideration and those empirically observed practices which suggested the entrepreneur arrived at his product price through non-marginal techniques.

In Chapter III, the shortcuts to marginalistic pricing as found in the pricing literature were presented, and their weaknesses

were indicated. It was shown in that chapter that the findings of research on pricing are mixed and still show some controversy as to whether business practice follows the mechanical procedures of full cost pricing or, alternatively, whether it adopts the more flexible, demand oriented precepts of quasi-marginalism. The empirical works of Earley seemed to lend support to marginalism. But these works also indicated that the firms under review differentiated their profit margins on different product lines as they gave their attention to competitive pressures and demand elasticities.

In the conclusions reached by Haynes in his study of 88 companies (some of which were homebuilding contractors), lies the key to bridging the gap between full costing and marginalism as a price determination technique. Haynes concluded that most of the companies he studied did not adhere to a strict full cost pricing approach. They displayed more flexibility than such a procedure would allow. His analysis viewed businessmen as adjusting to market forces. The businessmen sought through subjective evaluations of demand and through trial and error, prices that would help them achieve their objectives. Where costs were used, their use was not in the form of a rigid base for a mechanical formula as full costing would claim. Rather, their use was for providing a resistance point for downward price flexibility--for providing a floor below which price will not be allowed to fall. Haynes found very few firms confining themselves to estimates of average cost and then simply adding a rigid, predetermined margin to arrive at a price.

Because entrepreneurs practise such procedures as: (1) trial

and error approaches to pricing which can lead to higher profits; (2) varying markups with different product lines; and (3) using flexible markups over time with adjustments being made to changing market conditions; a reconciliation can be made between full-costing and marginalism. It must be recognized that there are two steps to a full-cost pricing application: (i) the selection of the formula, and (ii) the mechanical use of the formula to arrive at a price. As was mentioned in Chapter III, once the firm selects the markup that it determines is viable, or which is given to it by oligopolistic market considerations, then the routine use of the formula can relieve management from the necessity of making individual analyses. Thus, full-costing reduces the cost of decision-making.

In the analysis of homebuilding contractors of the Edmonton area, costs played a significant role in price determination. For each of the contractors, costs were a definite starting point in their pricing computations. This fact is supported by the included appendices which describe each contractor's basic costing procedure. Closer examination of the individual builders, however, reveals they also took direction from demand considerations.

It is the conclusion of this thesis that these contractors did not adhere strictly to the principles of full-cost pricing, nor did they, in the sense of economic theory, display any pure applications of marginalism in their pricing practices. Costs for these contractors served more as a price reference point than as a price resistance point. This was particularly true with Alcan Ltd. The building companies

considered did not show any practice of equating price on the basis of calculating incremental costs and revenues. Instead, each of the firms determined their direct costs of production, or used estimates of them as a base to which they added a variable costing margin (determined through demand considerations), to arrive at a final price.

It is concluded that these firms displayed what can be called "quasi-marginalistic behavior." This is evidenced by their application of flexible markups to changing market conditions, and their practice of modifying markups to product types. In no absolute sense were the companies incremental marginalists as business economists describe.

Contribution to Price Policy

One of the most significant contributions of this study is in describing what contractors do in their pricing process. The contractor will discover a variety of ways of attacking the pricing problem, and if he is addicted to one of the myths about pricing found in some business circles, this study should help him realize what wider perspectives exist.

For example, this study lends little support to the view that pricing on the basis of cost is "scientific," and it raises doubts about the profitability of constant markups on cost. It does not, on the other hand, support the view that imitation is always merely a lazy manager's escape from decision-making. It recognizes that some managers may be quite correct in concentrating on other problems, such as sales promotion, or employee morale.

Individualization of pricing

The present study indicates that some contractors in the Edmonton area do succeed in adapting product prices to the diverse conditions of demand and competition. The suggestion is that those homebuilders following rigid pricing formulas should consider whether greater imagination in pricing is justified. This becomes a problem of weighing the benefits of change against the costs of change. It is not suggested that all contractors abandon their present simple or mechanical approaches to pricing, for the costs in terms of management time may be too great. It is suggested, however, that managers consider the problem and make a conscious choice between careful individualization of prices and the simpler mechanical rules.

Flexibility of prices over time

The contractors surveyed displayed a diversity of willingness to vary prices with changing economic conditions. It is not suggested that every contractor would benefit from greater flexibility. But some of the homebuilders could undoubtedly profit from adaption of prices to changing conditions--to attain greater use of idle capacity or to ration capacity when it is short. The policy of a few firms of following full-costs when volume is low, and when overhead costs per unit are consequently high, could lead to pricing themselves completely out of the market. The policy of other builders, in refusing to price below full-costs when the incremental revenue clearly exceeds the incremental cost and when there are no long-run penalties for such behavior, is equally difficult to justify.

Company image

With its pricing, a firm should not destroy the kind of "image" it is trying to create in the minds of the public. The importance of this consideration varies from firm to firm. Some builders, selling in an "informed" market, may have nothing to gain from the attention to such interrelations in demand; the buyers may purchase strictly on a price and quality basis.

Pricing and Incremental Reasoning

It is more important to develop a way of reasoning about pricing than it is to learn specific rules. Correct reasoning can be adapted to particular circumstances; rules by their nature are inflexible and may be incorrectly applied. A decision-maker who has a correct understanding of incremental reasoning is capable of a flexible adjustment of policy to specific circumstances.

Many small businessmen, including those examined in this study, are intuitive incremental reasoners. They may not have heard of incremental costs or demand elasticities, but they reach decisions that are consistent with these concepts. Unfortunately, other businessmen are falling short of a full application of incremental reasoning which in the long-run may mean a considerable loss of market share. Some managers argue that they must make profits on every job, by which they mean that there must be a markup above full-costs; others take overhead allocations too seriously. And undoubtedly, some avoid experimentation with pricing simply because it is beyond their experience.

In such instances, the best service this presentation can perform is to encourage the fuller appreciation of incremental reasoning. This would mean more careful consideration of the impact of decisions on changes in revenues and costs. It implies the consideration of both the long-run and short-run effects of price changes, recognition of the possible reactions of competitors, the separation of fixed and variable costs, and the consideration of the interrelated character of product demands.

Frequently, incremental reasoning is taken to imply that prices are equal to incremental cost. This is a misunderstanding. Incremental reasoning requires both cost and demand considerations. It results in low prices only when demand elasticities are high at levels below average costs and when there are no alternative uses for facilities.

It has been argued that full-cost pricing under certain short-run circumstances is reasonable. This is true because in the short-run the impact of changes from full-costs is unfavorable. Thus this is not an exception to incremental reasoning and not even an exception to the principle that fixed costs are irrelevant. All of the justifications of full-costs that have been presented are justifications in terms of demand and not in the name of the "recovery of fixed costs."

The principles presented in this thesis are quite general. The individual decision-maker must employ his skill in particular applications. Unfortunately, there is no touchstone that will provide a simple answer for each specific case.

Far from arguing that business economics can supplant the skills of the individual businessman, the author makes the more modest claim that a knowledge of fundamental principles, along with a study of concrete pricing practices, can help him sharpen those skills.

APPENDIX A

THE DISTRIBUTION OF VACANT AND SERVICED LOTS THROUGHOUT THE SUBURBAN AREAS OF EDMONTON

October 1968

	May 1965	Jan. 1966	July 1966	Nov. 1966	July 15 1967	Nov. 9 1967	April 18 1968	July 23 1968	Oct. 15 1968
West									
Buena Vista	*	32	30	60	51	71	58	41	30
Patricia Heights	0	0	0	0	0	233	201	158	82
Quesnell Heights	*	83	122	75	75	89	49	44	40
Rio Terrace	*	*	*	4	14	14	13	8	46
Westlawn	0	0	0	0	0	125	89	39	89
Elmwood	155	59	*	3	0	0	0	0	--
Meadowlark Park	89	48	0	0	0	0	0	0	--
	244	222	152	142	140	532	410	290	287
Northeast									
Delwood	581	462	369	225	200	119	59	23	--
Londonderry	0	25	148	201	264	495	420	340	370
Rundle Heights	0	166	164	215	325	299	237	202	319
Steele Heights	327	273	266	334	183	480	348	251	218
Belvedere	191	138	139	98	0	0	0	0	--
Maypark	*	*	75	*	*	*	*	*	--
Balwin	37	2	0	0	0	0	0	0	--
	1,136	1,066	1,161	1,074	972	1,393	1,064	816	907
Southwest									
Aspen Gardens	326	191	127	56	9	8	8	1	--
Duggan	33	4	0	146	253	236	89	37	17
Greenfield	243	399	702	472	236	150	75	21	--
Lansdowne	0	331	299	251	148	104	88	70	63

APPENDIX A (Continued)

	May 1965	Jan. 1966	July 1966	Nov. 1966	July 15 1967	Nov. 9 1967	April 18 1968	July 23 1968	Oct. 15 1968
Riverbend	0	121	113	111	95	69	51	63	140
Royal Gardens	488	276	290	139	21	4	4	0	--
Westbrook Estates	148	122	206	185	163	131	108	89	88
Ottewell	305	93	43	0	0	0	0	0	--
Grandview Heights	65	39	0	0	0	0	0	0	--
Malmo Plains	113	39	0	0	0	0	0	0	--
West Capilano	33	31	*	0	0	0	0	0	--
	1,754	1,646	1,780	1,560	925	702	423	243	308
TOTAL	3,134	2,934	3,093	2,776	2,037	2,627	1,897	1,349	1,502

*Not included in survey.

APPENDIX B

SINGLE FAMILY DWELLINGS CONSTRUCTED IN EDMONTON, 1968

	Contractor	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total to Date
1.	Ace Lange Construction	-	-	-	4	4	4	4	3	2	5	2	1	29
2.	Alcan Design Homes	4	18	5	7	7	9	8	7	3	11	6	5	90
3.	Alldritt Construction	2	1	6	53	3	1	1	1	21	35	7	-	131
4.	W. Assaf Construction	-	-	1	1	1	-	2	1	-	-	-	-	6
5.	B & H Homes	-	8	8	6	5	1	1	-	12	5	12	1	59
6.	L. Blais & Son	-	-	1	-	-	-	-	-	-	-	-	-	1
7.	Blackwood Construction	-	-	-	3	-	-	-	-	-	1	3	2	9
8.	Bodnar & Son	-	-	-	3	-	-	-	-	-	-	-	-	3
9.	Bomark Homes	-	-	-	-	3	-	-	-	-	-	-	-	3
10.	Borlinski Developments	-	-	-	-	3	-	-	-	-	-	-	-	3
11.	Bracco Construction	-	-	-	2	1	1	1	-	-	2	1	-	9
12.	Belvedere Developments	-	-	-	1	-	-	-	-	-	-	-	-	1
13.	N. Case Construction	-	1	2	-	-	2	1	-	1	-	2	1	10
14.	Custom Construction	-	1	-	-	-	-	1	-	-	3	3	-	8

APPENDIX B (Continued)

	Contractor	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total to Date
15.	Clarendon Construction	2	4	2	3	18	2	1	3	6	3	1	3	47
16.	Christenson Homes	-	-	1	2	-	-	-	-	1	1	-	-	5
17.	Continental Homes	-	-	-	-	-	1	-	-	-	-	-	-	1
18.	D & V Construction	2	-	1	-	-	-	-	-	-	-	3	-	7
19.	Dekker Construction	-	3	1	-	-	3	-	-	-	3	2	-	12
20.	Del Mar Builders	-	-	-	-	-	1	-	-	-	-	-	-	1
21.	Doric Homes	4	6	2	3	1	6	2	5	4	16	2	5	56
22.	Dykstra Construction	-	2	1	2	-	-	-	-	1	2	4	-	12
23.	Dun & Peterson	-	-	2	11	-	1	-	-	1	4	-	-	19
24.	Edmonton Country Homes	-	-	-	-	-	-	2	-	-	-	-	-	2
25.	Ekert Construction	-	-	2	1	-	1	-	-	-	1	-	-	5
26.	Ewanyk Construction	-	5	-	-	-	-	-	1	6	4	-	-	16
27.	Engineered Homes	-	17	2	1	22	11	-	13	-	-	2	-	68
28.	Engleman Homes	-	-	2	2	1	2	1	1	-	5	2	-	16

APPENDIX B (Continued)

	Contractor	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total to Date
29.	Erval Construction	-	-	1	1	-	-	-	1	-	-	2	-	5
30.	Fairlane Construction	-	-	4	-	-	-	-	-	2	5	6	-	17
31.	Fekete Construction	-	8	3	5	1	1	-	4	2	6	12	1	43
32.	H. Fruck Construction	1	1	-	-	-	-	-	-	-	-	-	-	2
33.	Gillow Homes	-	-	-	2	-	-	-	-	2	-	-	-	4
34.	Ron-Gren Construction	-	1	1	6	-	2	1	1	-	1	-	1	14
35.	Grinevitch Const.	-	-	-	5	-	-	2	1	1	1	-	5	15
36.	Horkulak Construction	1	-	1	-	-	1	-	-	-	-	1	-	4
37.	Hauca Homes	4	-	-	-	-	-	2	2	-	4	2	-	14
38.	J. Hiesinger	2	-	2	-	-	-	4	-	-	-	-	-	8
39.	Harrison Homes	-	-	-	5	1	-	-	-	1	6	5	-	18
40.	Huculak Homes	-	-	2	2	-	-	1	1	-	1	1	-	8
41.	Holomis Construction	-	-	-	-	-	2	-	-	-	-	-	-	2
42.	O. Hoffman	-	-	-	-	-	2	-	-	-	-	-	-	2

APPENDIX B (Continued)

	Contractor	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total to Date
43.	Jackson Homes	6	5	8	41	1	6	7	8	2	13	11	1	109
44.	Jacobsen & Son Homes	4	-	-	-	2	-	-	1	1	3	-	-	11
45.	Jewell Homes	-	1	-	5	2	-	-	-	-	1	-	-	9
46.	S. Janke Const.	-	-	-	-	-	2	-	-	-	-	-	-	2
47.	Kemp & Jeske Const.	1	-	-	1	2	-	1	-	-	1	1	-	7
48.	Krebs Construction	-	-	9	4	2	-	-	-	-	1	4	-	20
49.	Lorinda Construction	-	4	2	1	7	-	-	1	6	8	2	-	31
50.	Len Perry Construction	-	12	4	14	13	3	6	5	3	1	10	8	79
51.	Labrenz Construction	1	2	-	5	1	-	-	-	-	1	2	-	12
52.	Lasner Construction	-	-	-	-	-	1	-	-	-	-	-	-	1
53.	Marlo Homes	3	2	1	1	2	4	2	3	3	-	9	1	31
54.	MacLachlan & Mitchell	-	47	13	23	8	11	10	3	10	15	28	14	182
55.	Mattby Construction	-	-	1	-	-	1	-	-	-	-	-	-	2
56.	H.R. Miller Homes	-	-	1	3	2	3	3	2	-	3	1	-	18

APPENDIX B (Continued)

	Contractor	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total to Date
57.	Melvin Homes	-	-	2	1	-	2	1	1	-	-	-	-	7
58.	E. Markstrom Const.	-	-	1	1	1	-	-	-	-	3	-	-	6
59.	May Construction	-	-	-	1	1	-	-	1	-	1	-	-	4
60.	J. Moshuk	-	-	-	5	-	-	-	-	-	2	-	-	7
61.	Native Construction	-	1	1	1	-	2	-	1	1	-	2	-	9
62.	Ostrowski Construction	1	1	1	6	-	2	1	-	-	-	-	-	12
63.	Onfruw Construction	-	-	-	4	-	-	-	-	-	-	-	-	4
64.	Onusko Construction	-	-	-	3	-	-	-	-	-	-	-	-	3
65.	O'Connor & Maltby	-	-	1	-	-	-	-	-	-	-	-	-	1
66.	Oakridge Construction	-	-	3	-	-	-	-	-	2	2	5	-	12
67.	Oakland Homes	-	-	7	1	-	-	1	-	-	21	8	1	39
68.	Pretzlaff Const.	-	1	1	2	-	-	-	-	-	2	-	-	6
69.	Quality Construction	25	17	26	16	9	20	11	8	8	58	23	21	259
70.	R & R Construction	-	-	-	1	1	-	-	-	-	-	-	-	2

APPENDIX B (Continued)

	Contractor	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total to Date
71.	S. Rossal Const.	-	-	-	2	3	-	-	-	-	-	2	-	7
72.	S & S Homes	4	6	5	5	-	6	7	3	7	2	4	10	89
73.	Shostak Const.	1	2	4	7	2	3	9	1	-	9	10	5	53
74.	Schaaf Bros. Ltd.	1	3	-	1	-	-	-	-	-	-	-	-	4
75.	J. Schouten & Sons	-	7	20	9	8	3	10	2	1	18	15	3	96
76.	H. Schmidt	2	-	-	2	-	-	-	-	-	-	3	-	7
77.	S. Stuparyk	-	1	6	1	3	1	1	1	4	6	-	-	24
78.	Skylark Construction	-	1	5	-	1	-	-	1	5	4	8	-	25
79.	Sieb Construction	-	-	4	3	-	2	-	1	-	-	-	-	10
80.	Tip Top Homes	2	-	3	1	1	1	2	1	-	1	4	1	12
81.	Terra Properties	1	5	-	13	3	1	8	7	2	34	7	12	93
82.	F. Tonn Construction	-	2	-	1	-	2	-	-	1	1	-	-	7
83.	Tony's Drywall Bldg.	-	-	3	2	-	2	1	1	-	-	-	-	9
84.	Tokar Construction	-	-	1	1	-	-	-	-	1	-	1	-	4

APPENDIX B (Continued)

	Contractor	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total to Date
85.	Wescan Construction	1	-	-	-	-	1	-	1	-	-	2	2	8
86.	Wayne Construction	-	-	7	3	1	-	-	-	10	-	-	-	21
87.	Willowbrook Homes	-	-	9	3	-	2	2	-	5	10	-	-	31
88.	D. Zingle Construction	1	-	-	-	-	-	1	-	-	-	1	-	3
89.	H. Birkholz Const.	-	-	-	-	-	-	-	1	1	1	1	-	4
90.	Rockford Holdings	-	-	-	-	-	-	-	-	3	-	3	-	6
91.	Pathfinder Const.	1	1	3	8	2	4	2	-	1	2	3	-	27
92.	J. Baker Const.	-	-	-	-	-	-	-	1	-	2	-	-	3
93.	Golden Key Homes	-	-	-	-	-	-	-	-	-	-	8	3	11
94.	Simber Developments	-	-	-	-	-	-	-	-	-	-	9	4	13
95.	Rio Vista Homes	-	-	-	-	-	-	-	-	-	-	5	-	5
														2,241

APPENDIX C

SINGLE FAMILY DWELLINGS CONSTRUCTED IN EDMONTON, 1969

	Contractor	Jan.	Feb.	Mar.	Apr.	May	Total to Date
1.	Ace Lange Const.	-	1	2	5	2	10
2.	Alcan Design Homes	6	2	7	12	3	30
3.	Alldritt Const.	4	32	10	50	4	100
4.	W. Assaf Const.	-	-	-	-	-	-
5.	B & H Homes	4	-	-	3	-	7
6.	J. Baker Const.	-	-	-	2	-	2
7.	L. Blais & Son	2	-	-	-	-	2
8.	Blackwood Const.	-	-	-	-	3	3
9.	Bracco Const.	-	-	-	1	1	2
10.	Bilodeau & Sons	-	-	-	2	-	2
11.	Canarm Const.	-	1	1	1	1	4
12.	Carthage Const.	-	1	1	1	-	3
13.	N. Case Const.	-	-	-	-	-	-
14.	Custom Const.	-	-	-	-	-	-
15.	Clarendon Const.	-	7	6	13	2	28
16.	Christenson Homes	-	-	1	1	-	2
17.	D & V Const.	-	-	-	-	-	-
18.	Dekker Const.	2	-	-	3	-	5
19.	Doric Homes	-	-	-	9	-	9
20.	Dykstra Const.	-	-	-	2	-	2
21.	Dunn & Peterson	2	4	-	-	-	6

APPENDIX C (Continued)

	Contractor	Jan.	Feb.	Mar.	Apr.	May	Total to Date
22.	Birkholz Const.	-	1	1	1	-	3
23.	Ekert Const.	-	-	-	1	-	1
24.	Ewanyk Const.	-	-	-	-	2	2
25.	Engineered Homes	-	-	-	-	-	-
26.	Engelman Homes	-	2	-	4	1	7
27.	Erval Const.	-	-	-	-	-	-
28.	Fairlane Const.	-	-	-	-	-	-
29.	Fekete Const.	-	2	6	1	1	10
30.	Golden Key Homes	-	-	2	-	2	4
31.	Ron-Gren Const.	-	5	-	3	3	11
32.	Grinevitch Const.	-	1	-	-	-	1
33.	Hauca Homes	-	-	-	2	3	5
34.	Harrison Homes	-	-	-	2	3	5
35.	Huculak Homes	-	-	-	6	-	6
36.	Jackson Homes	-	2	21	2	-	25
37.	O. Hoffman Const.	-	-	-	2	-	2
38.	Kempe & Jeske Const.	-	1	-	1	1	3
39.	Krebs Const.	1	1	1	-	-	3
40.	Lorinda Const.	-	-	-	-	-	--
41.	Len Perry Const.	7	2	13	9	4	35
42.	Labrenz Const.	-	1	1	2	1	5
43.	Marlo Homes	1	-	-	3	-	3

APPENDIX C (Continued)

	Contractor	Jan.	Feb.	Mar.	Apr.	May	Total to Date
44.	Hrynyk Const.	2	-	-	1	-	3
45.	Horkulak Const.	-	1	-	1	-	2
46.	MacLachlan & Mitchell	7	9	9	34	7	66
47.	J. Moschuk	-	-	-	-	2	2
48.	Native Construction	-	-	1	-	-	1
49.	Ostrowski Const.	-	-	-	-	-	-
50.	Oakridge Const.	-	-	-	-	-	-
51.	Oakland Homes	-	-	-	1	1	2
52.	Pretzlaff Const.	-	1	-	-	-	1
53.	Ponderosa Const.	-	-	1	-	-	1
54.	Pathfinder Const.	-	-	-	-	-	-
55.	Quality Const.	12	4	48	24	1	89
56.	Quest Homes	-	1	-	1	-	2
57.	Rio Vista Homes	-	-	-	-	-	-
58.	S & S Homes	1	2	-	-	-	3
59.	Simber Develop.	-	-	-	1	1	2
60.	Schaaf Bros. Const.	-	-	-	2	-	2
61.	Shostak Const.	-	-	-	4	-	4
62.	J. Schouten & Sons	-	-	-	-	-	-
63.	S. Stuparyk	-	-	-	3	1	4
64.	Skylark Const.	-	-	-	-	-	-
65.	Stanton Develop.	-	2	-	-	-	2

APPENDIX C (Continued)

	Contractor	Jan.	Feb.	Mar.	Apr.	May	Total to Date
66.	Sieb Construction	-	-	2	-	-	2
67.	Tip Top Homes	1	-	-	-	3	4
68.	Terra Properties	5	4	9	62	25	105
69.	F. Tonn Const.	-	-	-	-	-	-
70.	Tony's Drywall Bldg.	-	-	-	-	-	-
71.	Wescan Const.	-	-	-	-	-	-
72.	Wayne Const.	-	-	1	7	-	8
73.	Willowbrook Homes	-	-	-	-	-	-
74.	Zingle Const.	1	-	-	-	1	2

Source: These statistics were compiled from an 18 month analysis of the City of Edmonton building permit applications.

Note: These statistics account for only single family dwellings built in the City of Edmonton. They do not include contractors who built in the metropolitan Edmonton area.

APPENDIX D

CONTRACTORS CONSTRUCTING AT LEAST 25 HOUSES IN 1967 WITH 80% OF PRODUCTION IN THE $28,000 TO $45,000 PRICE RANGE

Contractor	Total Dwellings Built
1. Ace Lange Construction Ltd.	35
2. Alcan Design Homes Ltd.	58
3. B & H Homes Ltd.	24*
4. Clarendon Construction Ltd.	28
5. Fekete Construction Ltd.	53
6. Len Perry Construction Ltd.	76
7. Oakland Homes Ltd.	14*
8. Willowbrook Homes Ltd.	18*

*Indicates contractors who did not in 1967 qualify by 1968 sample characteristics.

Source: Statistics were compiled from a 1967 survey of the City of Edmonton published building permit applications.

APPENDIX E

LEN PERRY CONSTRUCTION LTD.
COST ESTIMATE SHEET

Plan:
Date:

1. Land
   (a) Raw Land
   (b) Local Imp.
   (c) Interest & Taxes
   (d) Temporary Services

2. Building Fees
   (a) Building Permit
   (b) Surveyor's Certificate
   (c) Architect's Fee

3. Excavation
   (a) Excavation
   (b) Backfill
   (c) Dirt Moving
   (d) Final Grace
   (e) Black Dirt
   (f) Spread Top Soil

4. Cribbing
   (a) Crib. - Labour
   (b) Crib. - Lumber
   (c) Grade Beams
   (d) Augering & Perma Tubes
   (e) Fill gravel - basement
   (f) Bearing walls - teleposts
   (g) Reinforcing Iron
   (h) Snap Ties
   (i) Weep tile, Dampproofing
   (j) Equip. Rental
   (k) Nails

5. Concrete
   (a) Concrete - House
   (b) Place basement floor
   (c) Concrete - Garage
   (d) Place garage floor
   (e) Place landings
   (f) Concrete - Driveway
   (g) Placing - Driveway
   (h) CC and Winter heat
   (i) Placing Ftg. & Walls

APPENDIX E (Continued)

(j) Precast steps & brackets
(k) Concrete Patio
(l) Placing Patio
(m) Retaining Walls

6. Framing
   (a) House - Lumber
   (b) House - Labor
   (c) Garage - Lumber
   (d) Garage - Labor
   (e) Windows door frames
   (f) Garage Door
   (g) Automatic door opener
   (h) Fabricated beams
   (i) Nails - paper - poly
   (j) Miscellaneous

7. Plumbing
   (a) Plumbing - Basic
   (b) Garburator - Connect
   (c) Dishwasher - Connect
   (d) Sewer Water Lines
   (e) Gas Lines
   (f) Other

8. Roofing
   (a) Roofing - House
   (b) Roofing - Garage
   (c) Roof vents - flashing
   (d) Eavestroughing

9. Electrical
   (a) Basic incl. $_____ Fix All
   (b) Vent hood - supp. & Inst.
   (c) Oven - range
   (d) Dishwasher
   (e) Underground service

10. Drywall
   (a) Drywall House
   (b) Insulation House
   (c) Drywall Garage
   (d) Insulation Garage
   (e) Ceiling Insulation

APPENDIX E (Continued)

11. Heating
    (a) Furnaces - Ductwork
    (b) Kitchen fan duct
    (c) Bath fan duct
    (d) Garage Chimney
    (e) Laundry chute

12. Exterior Finish
    (a) Siding - Material
    (b) Siding - Labour
    (c) Stucco Wire
    (d) Stucco & Parge
    (e) Stucco Wire
    (f) Special Trim - Material
    (g) Special Trim - Labor
    (h) Posts - Inst.

13. Interior Finish
    (a) Underlay - Material
    (b) Underlay - Labor
    (c) Prefab Kit. Cab. - Inst.
    (d) Prefab Vanities - Inst.
    (e) Int. Fin. - material
    (f) Int. Fin. - hardware
    (g) Int. Fin. - closet doors
    (h) Arborite & Formica
    (i) Int. Fin. - Labor
    (j) Medicine Cab. & Glass
    (k) Feature Wall - Material
    (l) Feature Wall - Labor
    (m) Interior Handrail - Inst.
    (n) Company Labor
    (o) Shower Doors
    (p) Miscellaneous

14. Painting
    (a) Interior - House
    (b) Exterior - House
    (c) Wallpaper Inst.
    (d) Garage

APPENDIX E (Continued)

15. Floor Coverings
    (a) Hardwood Flooring
    (b) Carpeting
    (c) Hard Surface Flooring
    (d) Wall Tiling

16. Masonry
    (a) Fireplace - Main
    (b) Fireplace - Other
    (c) Hearth Coverings
    (d) Other

17. Miscellaneous Expense
    (a) Fill - Garage
    (b) Fill - Driveway
    (c) Form - Driveway
    (d) Mesh & Reinforcing
    (e) Sidewalk Blocks
    (f) Form Patio
    (g) Fill Patio
    (h) Utility Consumption
    (i) Company Labor
    (j) Cleaning
    (k) Flowers

18. Extras
    (a)
    (b)
    (c)
    (d)

19. Legal
    (a) Legal Fees & Disb.
    (b) Interest on Advances
    (c) Fire Insurance
    (d) Mortgage Fees

20. Selling Expense

21. Allocated Expense

APPENDIX F

CITY OF EDMONTON LOCAL IMPROVEMENT SCHEDULE
FOR THE RIVERBEND PROPERTIES SUBDIVISION BLOCK 10

	LOT			
	12	13	14	15
Assessable Length	63'	63'	63'	65'
Sewer	$1,039.50	$1,039.50	$1,039.50	$1,072.50
Water	229.32	229.32	229.32	236.60
Walk, Curb & Gutter	330.75	330.75	330.75	341.25
Lane gravel	135.45	135.45	135.45	139.75
Gravel	168.84	168.84	168.84	174.20
Asphalt Paving	360.36	360.36	360.36	371.80
Lighting	64.89	64.89	64.89	66.95
Annexation	157.50	157.50	157.50	162.50
Underground Power	141.75	141.75	141.75	146.25
Stripping	126.00	126.00	126.00	130.00
TOTAL	$2,754.36	$2,754.36	$2,754.36	$2,841.80

APPENDIX G

JOB AND COST ANALYSIS
CLARENDON CONSTRUCTION LTD.

Date Commenced _____ 19___ Date Completed _____ 19___

Sale Price $ _____	Land & Util.	Bldg. Fees	Exca-vation	Crib-bing
Extras $ _____				
Total Price $ _____	Sub. 1	Sub. 2	Sub. 3	Sub. 4

COST ESTIMATE

Date	Payee	Vou.No.

Conc. & Steps	Fram-ing	Plumb. & Gas	Roof-ing	Elec-trical	Plaster Drywal	Heat-ing
Sub. 5	Sub. 6	Sub. 7	Sub. 8	Sub. 9	Sub. 10	Sub.11
Ext. Fin.	Int. Fin.	Paint-ing	Floor Cov.	Mason-ary	Misc. Exp.	Extras Added
Sub.12	Sub.13	Sub.14	Sub.15	Sub.16	Sub. 17	Sub.18
Legal Etc.	Sales Comm.	Alloc. Exp.	Total Estimated Cost		Estimated Gross Profit	
Sub.19	Sub.20	Sub.21				

APPENDIX II

JOB PRICING PROCEDURES FOR
ACE LANGE CONSTRUCTION LTD. AND
FEKETE CONSTRUCTION LTD.

Item	Actual Cost	Estimate Cost
1. LAND & UTILITIES		
(a) Land		
(b) Local Improvements		
(c) Interest on Land Purchase		
2. BUILDING FEES		
(a) Application Fees (C.M.H.C.)		
(b) Permit Fees (City)		
(c) Survey Costs & Plot Plans		
(d) Gas Line		
(e) Utility Application Fees:		
Consumption -		
1. Gas		
2. Power		
(f) Plans & architectural fees		
3. EXCAVATION, FOOTINGS & CRIBBING		
(a) Excavation (inc. heating)		
(b) Backfill		
(c) Fill or disposal		
(d) Final grading		
(e) Reinforcing Steel		
(f) Steel Posts		
(g) Weeping Tile		
4. CONCRETE		
(a) Footings - material		
labor		
(b) Foundation - material		
labor		
(c) Floor - material		
labor		
(d) Steps		
(e) Walks		
(f) Enterprise Borings		
(g) Piles		
(h) Garage Grade Beam - material		
labor		
(i) Garage Floor		
(j) Driveway		
(k) Patio		

APPENDIX H (Continued)

5. MASONRY
   (a) Fireplace - material
                   labor
   (b) Veneer
   (c) Miscellaneous

6. FRAMING
   (a) Labour
   (b) Windows
   (c) Storm doors

7. MATERIALS
   (a) lumber

8. PLUMBING & HEATING
   (a) Plumbing Contract -
   (b) Sanitary & Storm Line
   (c) Heating Contract -
   (d) Extra Heating
   (e) Bathroom Fans

9. ELECTRICAL
   (a) Wiring Contract -
   (b) Extra Wiring
   (c) Light Fixtures
   (d) Built-Ins
   (e) Intercom

10. ROOFING
   (a) Roof
   (b) Eavestroughing

11. CERAMICS
   (a) Extras

12. DRYWALL
   (a) Drywall
   (b) Insulation
   (c) Lath & Plaster
   (d) Extra repairs

13. EXTERIOR FINISH
   (a) Siding
   (b) Labour for Siding
   (c) Stucco

APPENDIX II (Continued)

14. INTERIOR FINISH
    (a) Labour.
    (b) Material
    (c) Cupboards
    (d) Hardware
    (e) Glass

15. PAINTING
    (a) Interior
    (b) Exterior
    (c) Extra Painting

16. FLOOR COVERING
    (a) Contract
    (b) Extra floor coverings

17. MISCELLANEOUS
    (a) Labour Cleaning
    (b) Miscellaneous Labour
    (c) Iron Railings
    (d) Landscaping

18. GARAGE
    (a) Door
    (b) Piles

19. EXTRAS

20. MISCELLANEOUS CONSTRUCTION EXPENSES

21. LEGAL & MORTGAGE FEES
    (a) Mortgage Co. - legal fees
    (b) Company's legal fees
    (c) Mortgage Interest
    (d) Mortgage Insurance
    (e) Fire Insurance
    (f) Taxes
    (g) Brokerage Fee

22. SELLING EXPENSES
    (a) Commission
    (b) Other

APPENDIX H (Continued)

23. WARRANTY RESERVE
    SUB TOTAL
24. BRANCH OVERHEAD
25. HEAD OFFICE ADMINISTRATION & OVERHEAD
    SUB TOTAL
    PROFIT ALLOWANCE
    TOTAL--SELLING PRICE

MORTGAGE
DOWN PAYMENT

APPENDIX I

ALCAN DESIGN HOMES LTD.
COST ESTIMATE ANALYSIS

Model: _____ Location: _____

Purchaser: _____

	Element Description	EST. COST	ACT.COST +/-		Element Description	EST. COST	ACT.COST +/-
01	Permit			23	Garage Concrete		
02	Plot Plan (Stake Out)			24	Garage Floor Labour		
03	Excavation			25			
04	Backfill			26	Basement Gravel		
05	Extra Fill			27	Basement Floor Concrete		
06	Grading			28	Basement Floor Labour		
07	Landscaping			29	Exterior Concrete Works		
08				30	Precast Steps		
09	Wall Rebar			31	Walkways		
10	Footing Concrete			32			
11	Wall Concrete			33	Framing Lumber		
12	Joists & Beams			34	Trusses		
13	Teleposts			35	Framing Labour		
14	Foundation Labour			36	Windows		
15	Waterproof & Weeping Tile			37	Patio Doors		
16	Grade Beam			38	Garage Doors		
17				39	Storm Doors		
18	Driveway Rebar			40	Roofing		
19	Driveway Gravel			41	Insulation & Drywall		
20	Driveway Concrete			42	Attic Insulation		
21	Driveway Labour			43			
22	Garage Gravel			44	Fireplace		

	Element Description	EST. COST	ACT.COST +/-		Element Description	EST. COST	ACT.COST +/-
45	Brick Veneer			72	Finish Labour		
46	Aluminum Siding			73	Kitchen Cabin's & Vanities		
47	Soffit & Pascia			74	Appliances		
48	Shutters			75	Iron Railing		
49	Posts & Scallops			76	Walltiles		
50	Parging			77	Mirrors		
51	Window Walls			78	Shower Doors		
52				79	Shower Bases		
53	Plumbing			80	Fireplace Hearth		
54	Electrical			81			
55	Light Fixtures			82	Painting		
56	Heating			83	Hardwood Floors		
57	Venting & Fans			84	Resilient Floors		
58	Eavestrough			85	Carpeting		
59	Underground Wiring			86	Cleaning		
60	Gas Line			87	Legal Fees		
61	Water & Sewer			88	Taxes & Plans		
62	Gas Bills			89	Misc. Labour & Material		
63	Power Bill & Power Poles			90			
64	Underlay			91	Mortgage Interest		
65	Closet Doors			92	Fire Insurance		
66	Interior Doors			93	Sales Commission		
67	Exterior Doors			94	City Services		
68	Shelving			95	Land		
69	Mis. Finish Material			96	Site Expenses		
70	Hardware			97	Cost of Sales		
71				98	Warranty		
				99			
					TOTAL		

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